

TECHNOLOGY DEPARTMENT

# MOTOR AGE



UGUST 1945

A CHILTON PUBLICATION

# Soft pressure does it . . .

The Steel-Vent of today is the product of constant engineering. Step by step the needs of the replacement ring trade have been anticipated.

Out of this program came the soft-pressure principle, "motor engineered" sets and the many other refinements you get in Hastings Steel-Vent piston rings.

Whether it's a rebore or an extreme taper, you can bank on Steel-Vents for satisfying performance and long life.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN  
Hastings Mfg. of Canada Ltd., Toronto

## SOFT PRESSURE DOES IT — IN REBORES, TOO

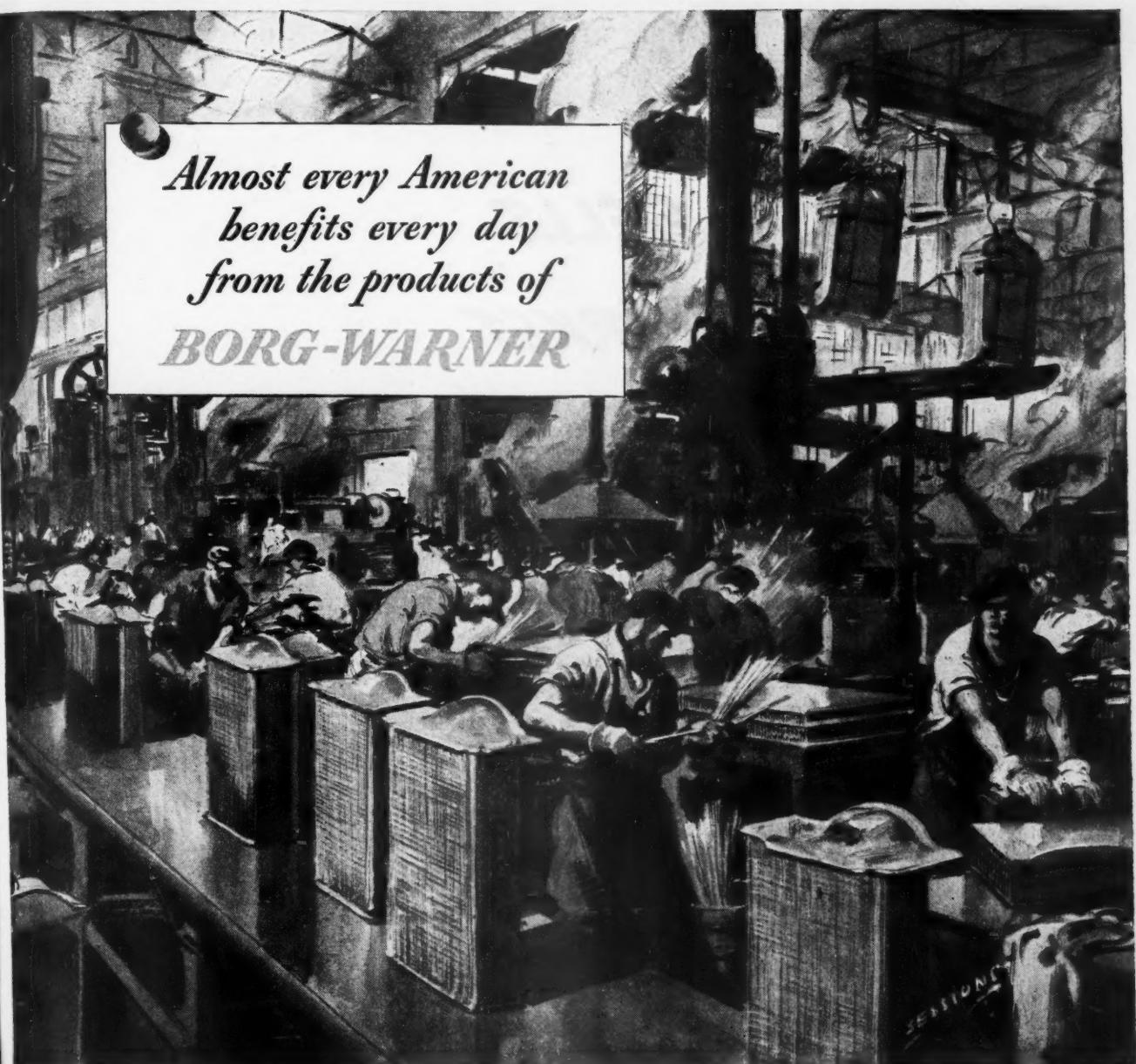
No guarantee without Steel-Vents—that's the way this Ohio shop works. "With very few exceptions," they say, "all our fleet accounts in this territory are using Steel-Vents in rebores and the performance has been so satisfactory that we do not guarantee a rebore job to these fleets unless we can install Steel-Vent rings. To date we have never had a failure."

## HASTINGS STEEL-VENT PISTON RINGS

U. S. PAT. 2,148,997

TOUGH ON OIL-PUMPING GENTLE ON CYLINDER WALLS

*Almost every American  
benefits every day  
from the products of  
**BORG-WARNER***



**MASS PRODUCTION OF RADIATORS AND CLUTCHES** for motorized warfare is painted by James Sessions at the Long Manufacturing Company, Detroit. Today the products of this great Borg-Warner plant are essential equipment in Army tanks, trucks and jeeps. In peacetime it is one of the largest producers of these vital operating units for passenger cars and trucks.

As Japan nears defeat, the production skill which American industry pledged to war, will more and more be filling your peacetime needs.

In this transition, Borg-Warner will contribute advancements in many fields. For Borg-Warner makes not only complete products, but also essential parts for products of other industries. As just one example, Borg-Warner parts are serving today in 9 out of 10 makes of automobiles.

Besides transportation, Borg-

Warner plays a vital role in farm equipment that produces food, appliances that improve the efficiency of the home, and countless other things equally important in the daily life of every American.

From the beginning the engineering and large-scale manufacturing of all Borg-Warner companies have been guided by the basic principle: "Design it better, make it better." And this ideal is working, now as always, to bring you ever better products at ever lower costs.

*Peacetime makers of essential operating parts for the automotive, aviation, marine and farm implement industries, and of Norge home appliances . . . these units which form the Borg-Warner Corporation are today devoted exclusively to the needs of war: BORG & BECK • BORG-WARNER INTERNATIONAL • BORG WARNER SERVICE PARTS • B-W SUPERCHARGERS, INC. • CALUMET STEEL • DETROIT GEAR • DETROIT VAPOR STOVE • INGERSOLL STEEL & DISC • LONG MANUFACTURING • MARBON • MARVEL-SCHEBLER CARBURETER • MECHANICS UNIVERSAL JOINT • MORSE CHAIN • NORGE • NORGE MACHINE PRODUCTS • PESCO PRODUCTS • ROCKFORD CLUTCH • SPRING DIVISION • WARNER AUTOMOTIVE PARTS • WARNER GEAR*

*Partners with the automotive industry from the start, Borg-Warner parts today are serving in 9 out of 10 makes of automobiles . . .*

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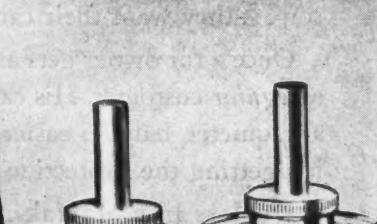
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AUGUST, 1945

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MOTOR AGE, Vol. LXIV, No. 9. Published monthly by Chilton Co., Chestnut & 56th Sts., Phila. 39, Pa. Entered as Second-Class Matter December 27, 1925, at the Post Office at Philadelphia, Pa.; Under the Act of Congress of March 3, 1879. In case of Non-Delivery Return Postage Guaranteed. Subscription price: United States, Mexico, United States Possessions, and all Latin-American countries, \$2.00 per year. Canadian and foreign, \$3.00 per year; single copies, 25 cents.

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*No ordinary grease jobs for me from now on!"*

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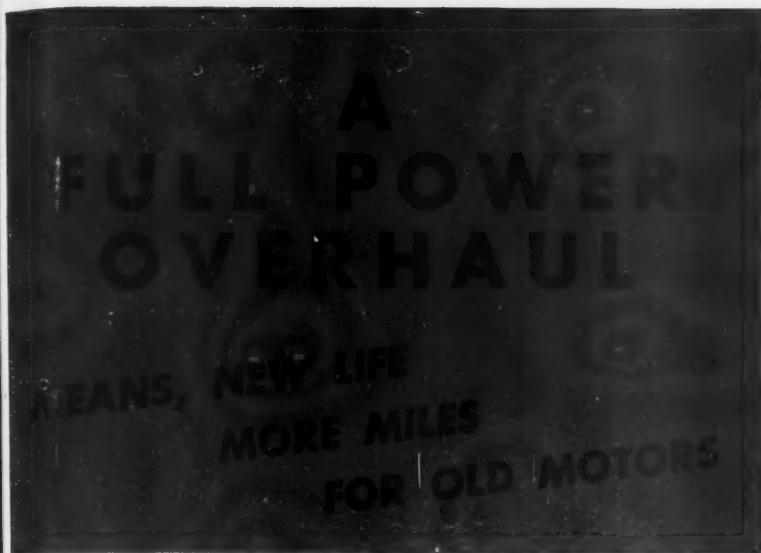
You'll like Marfak . . . because it can boost your lube profits and make more money for you, too.



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# The Birth of Two Nations



IN 843 A.D. three grandsons of Charlemagne met at Verdun and divided up his unwieldy Holy Roman Empire. Lands west of the Meuse and Rhone went to Charles the Bald, "King of the Franks," those east of the Rhine to Louis. Lothair received the narrow strip between, plus Italy. Through contact with Roman speech, the original Germanic tongue of the Franks evolved into French. East of the Rhine it remained Germanic. From this great trade sprang the French and German nations.



You, too, will make a great trade if you will let your Jobber exchange your ailing fuel pumps for

Factory Tested  
**AIRTEX**  
**FUEL PUMPS**

"Your profits climb with the AIRTEX Line"

**AIRTEX AUTOMOTIVE CORPORATION, FAIRFIELD, ILL.**



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## *AC is chosen for utmost reliability*



After thirty months of global war service, the big TWA Stratoliners were returned to their owners by the Army Air Transport Command, reconverted, improved—and resumed cross-country schedules in April.

TWA is one of several leading airlines whose engineers specify AC—just as do the engineers of 2 out of every 4 cars, trucks and coaches built in America.

From the earliest days of its history, AC has been distinguished for its pioneering, introducing many basic improvements which revolutionized spark plug design. During World War I, AC developed the first and only ceramic aircraft plugs for Liberty engines. Constantly improved, these plugs have helped to make aviation history, from Lindbergh's conquest of the Atlantic to the newest records of the Constellation and the C-97. Their war record extends from Berlin to Tokyo. So, too, does that of AC's automotive spark plugs.

Whether an engine operates in the sky, on land, or sea, there is an AC Spark Plug scientifically developed to give the utmost in spark plug performance—a fact which it is well to remember when recommending spark plugs for replacement service.

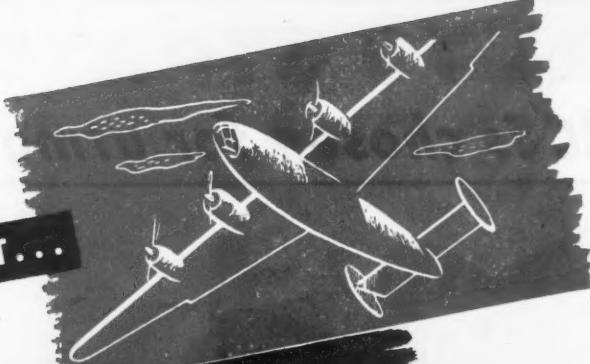
AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

One of TWA's 4-engine Boeing Stratoliners, Navajo, Apache, Zuni, Comanche and Cherokee, whose 1200 b.p. Wright engines are kept firing rhythmically by AC Ceramic Aircraft Spark Plugs.

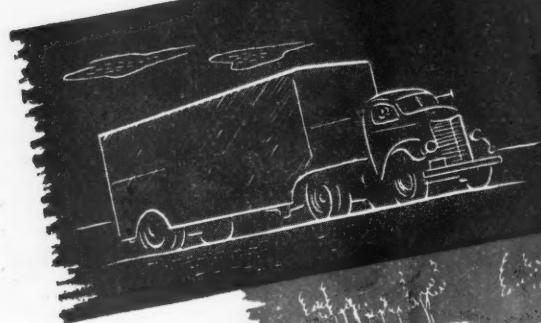
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**WORK...**



**TRAVEL...**



**or PLAY...**



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The war necessitated a let down in the

production of our peace time line. But there never was a let down in our thinking and planning for the return to peace and with it the resumption of shipments to our dealers. As the easing of restrictions makes this possible, E. A. will again be first in Quality, Profit and Delivery.

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LIGHTS



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BICYCLE LAMPS  
AND HORMS



WINDSHIELD WIPERS



AUTOMOBILE  
HORMS

# TO MAKE CARS LAST, PUT QUALITY FIRST...

..OR ELSE!



## THE CRYING NEED IS FOR CARE!

Rigid preventive maintenance is the only hope until new vehicles come off the line in sufficient quantity to count. The *heart* of preventive maintenance is quality.

With today's greater use of the lower gears, it is more important than ever to use the proper grade and quality of lubrication for transmission and rear ends. Make sure the correct level is maintained. Change to the specified lubricant for the season. Do these things to save critical gears and bearings. When replacement of parts is necessary, always buy the highest quality available from your

Grey-Rock jobber. "Quality" is his middle name! *Brakes are fundamental, too!* Give them your best! Your Grey-Rock jobber has the latest brake-servicing information, including National Safety Council standards, to make your job easier, surer. He also has Grey-Rock quality balanced linings for safe, sure stops . . . for longer wear. *See him for all other quality parts and shop-services.*

• • •  
It's truer than ever today: To make 'em *last*, put quality *first*. UNITED STATES ASBESTOS DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.



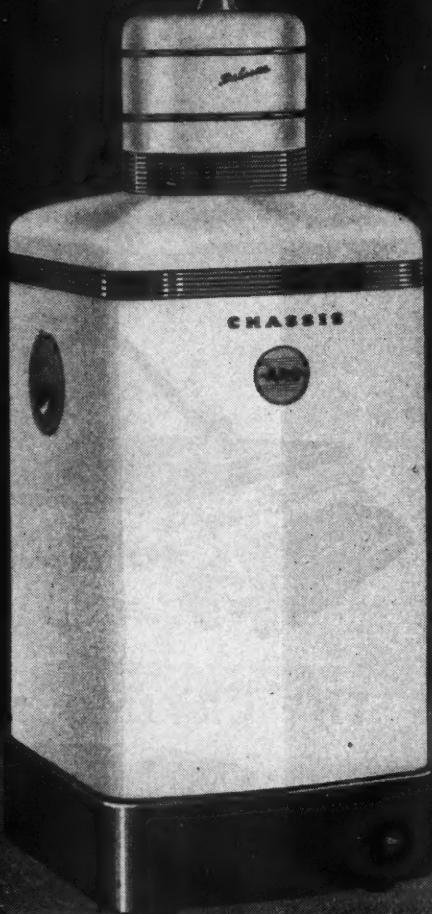
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MORE GAS  
MORE TRAVEL  
means—  
**MORE LUBE  
BUSINESS!**

To serve old and new cars and increased motor travel...wise service station operators everywhere are equipping *now* with ARO—to attract bigger lube volume!

No priority needed—just see your ARO Jobber! With limitation orders withdrawn—the full line of all types of ARO precision-built Lube Equipment is again available...including handsome cabinet models. Order at once—first come, first served.

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WITH—ARO**

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FULL LINE ARO  
LUBE EQUIPMENT  
AGAIN AVAILABLE**



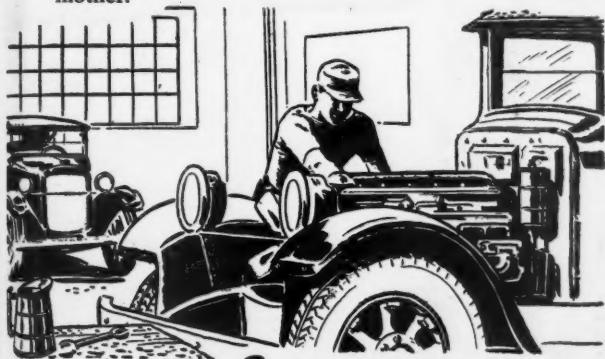
# There was nothing in Johnnie's way

Reading time: 1 minute, 43 seconds

This is an actual case—a true story from the record of "Johnnie" in the files of the Chrysler Corporation.



1 When his father died in the first World War, Johnnie quit school; got a job in a war plant to support himself and his widowed mother.



3 Johnnie was smart, but he wanted more "education." He wanted to know all about engines and transmissions and everything that makes a car run. So he switched to a job in the shop, fixed cars and trucks for several years, soaked up "monkey wrench" knowledge and saved his money.



5 He got a job with a big Detroit car manufacturer; later became a Branch Manager. Johnnie spent ten busy years in this field, acquainting himself with retail selling and servicing. Then came another "hot" opportunity in 1944, to buy the business of a large southwestern Chrysler-Plymouth dealer. Johnnie says, "I'm still working my way through 'college' . . . and earning a pretty good income."

2 Johnnie always loved automobiles; kept dreaming about owning a business of his own some day. When the war was over he got a job selling cars and tractors for a local dealer. He liked it a lot, made more money than he ever had before.



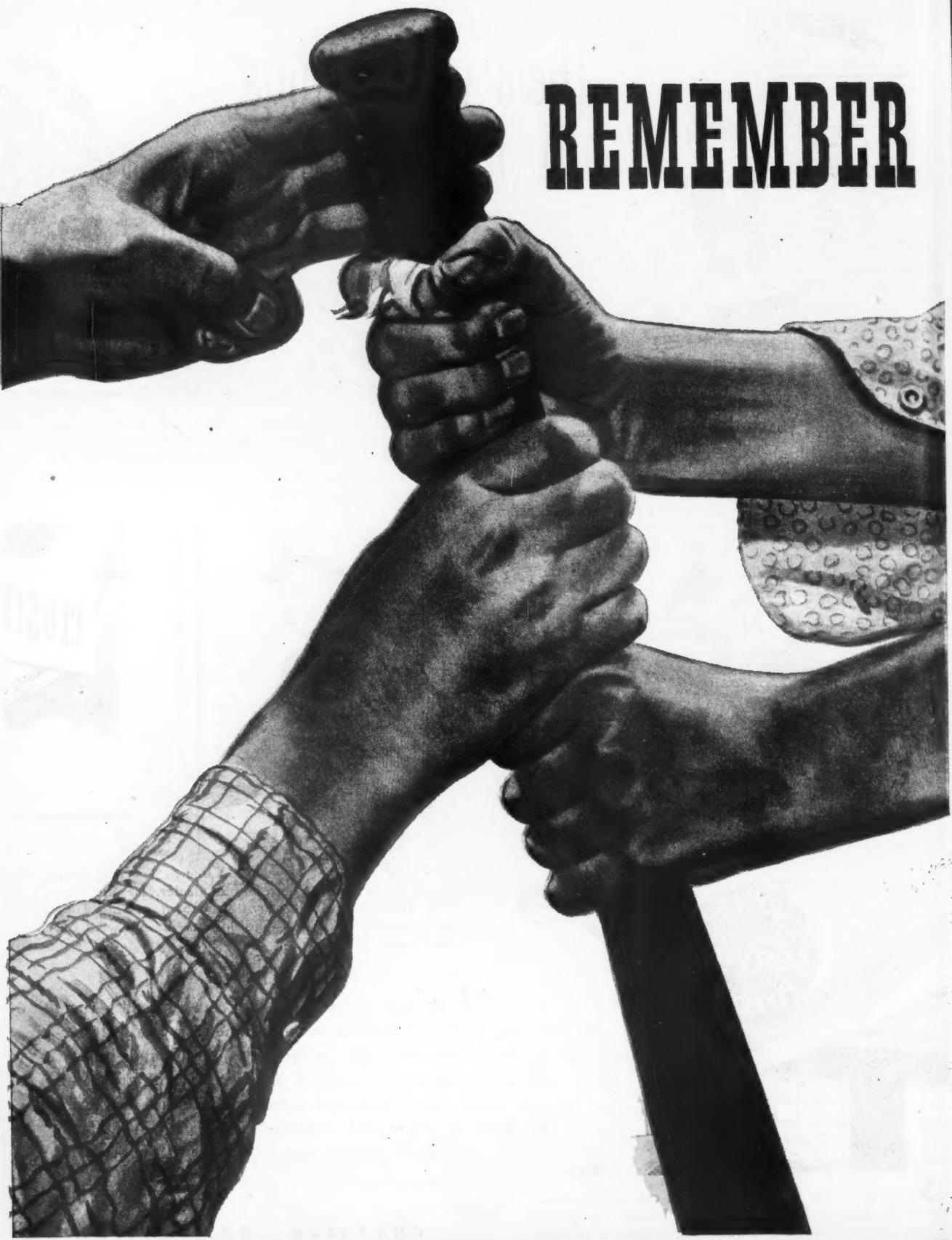
4 His first big chance came in a nearby town where he became an automobile dealer. He did very well. Then he moved to a bigger town nearby. Then the depression hit him,—and Johnnie simply went out after more "education."

JOHNNIE'S success was, of course, well earned. It is the old fashioned kind of accomplishment, typically American, with the usual jolts and bumps on the way. Johnnie finds himself today with a substantial enterprise of his own. It will grow and prosper under his experienced direction. Johnnie's has been the kind of effort and intelligence which will help to keep America a land of real freedom and opportunity.

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KEEP ON BUYING WAR BONDS



**REMEMBER**

**AUTO-LITE**

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Competition in the "Big League" is tough, and bound to grow tougher. That's why you'll need all 'round support to move the merchandise you handle in the volume required.

Auto-Lite's quality products—backed by hard-hitting campaigns like the great radio show, "Everything for the Boys", the "Mountain Boys" promotions and "Plug-Chek" Inspection Service and the new technicolor movie by Walt Disney Productions—is the kind of help that increases traffic, helps build volume on every service and product you handle.

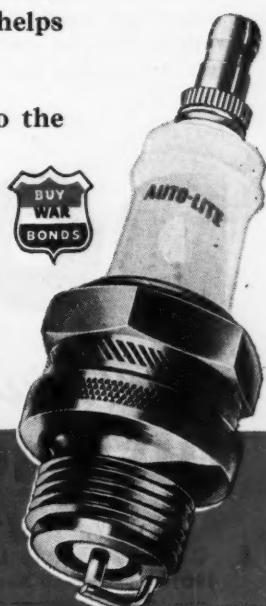
The game's about to start! Make sure you give plenty of thought to the selection of the team you want to play with.

THE ELECTRIC AUTO-LITE COMPANY  
TOLEDO 1      Merchandising Division      OHIO



Tune in Auto-Lite's great radio show "Everything for the Boys" starring Dick Haymes and featuring men and women on the fighting fronts—Every Tuesday Night—NBC Network.

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IGNITION ENGINEERED BY IGNITION ENGINEERS



Replace  
with the only  
YEAR 'ROUND  
thermostat!

AS  
PART  
OF EVERY  
MOTOR TUNE-UP

One way to maintain good motor performance in aging cars is replacement of the worn cooling system thermostat with a DOLE—the only all-year thermostat. It adjusts for the seasons—from the hot days of summer to the cold months of winter. Quicker warm-up is supplemented by reduced motor wear and a saving in gasoline and oil.

**DOLE**

*Adjustable*  
**THERMOSTATS**

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# MOTOR AGE

With Which Is Combined AUTOMOBILE TRADE JOURNAL

## FOR AUTOMOTIVE SERVICEMEN

Vol. LXIV, No. 9

August, 1945

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# Precision Control

## FEATURES WEIDENHOFF TEST BENCHES

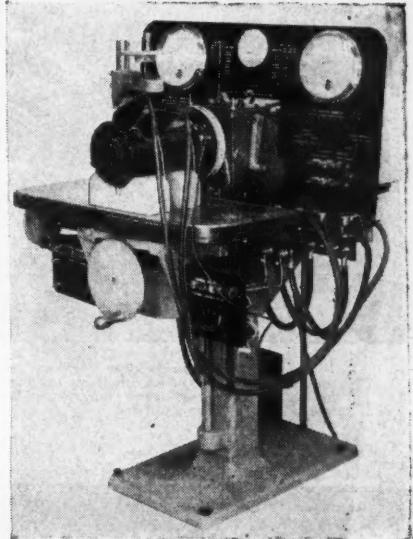


Panel of Model 501  
Generator Test Bench

The operator of a Weidenhoff Test Bench has at his finger tips a conveniently arranged observation and control panel with meters, switch, controls and indicating instruments easy to see, to use and to understand.

On the Model 501, for example, the circuit under test is indicated by one of the red or green signal lights working in conjunction with push button circuit selector switches. Simply push the button. If polarity is reversed, as indicated by meter—just push the other button. No need to change connections to generator.

The comprehensive instrument panel is one of many exclusive features, which combined, make Weidenhoff Test Benches universally popular and profitable for servicing modern generators, regulators and starting motors. Full information available.



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Generator Test Bench

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*For best results in any make  
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## 26 BASIC DESIGNS

To help you get best results on any ring replacement job, Sealed Power Individually Engineered Piston Ring Sets are selected from twenty-six (26) basic designs of piston rings. Hundreds of sets are cataloged—each set engineered to do the best possible job in a particular make of engine under specific *conditions of cylinder wear*. Sealed Power has been refining these sets over five years—has been producing rings for car, truck and engine manufacturers 34 years. For best results, re-power with Sealed Power motor parts. Sealed Power Corporation, Muskegon, Mich. and Windsor, Ont.

*Piston Rings, Pistons, Cylinder Sleeves, Piston Pins, Valves  
Water Pumps, Bolts, Bushings, Tie Rods, Front End Parts*

**Buy More War Bonds And Keep Them! Pay \$3—Get \$4!**

Because of the extremely close tolerances of this 42" high production grinder which produces the exceptionally fine finishes on the side of piston rings, Sealed Power rings are free from dish, warp and twist.



# SEALED POWER PISTON RINGS

BEST IN NEW CARS! BEST IN OLD CARS!

## SLANTS ON THE News

### Price Tags Still Needed for New Cars

THE price tags to be placed on the various cars continue to head the topics of interest being discussed not only by the manufacturers and car dealers, but the entire motoring public as well. Some months ago, GM's C. E. Wilson thought prices would be up about 25 per cent. More recently MOTOR AGE, in this column, stated that an increase of at least 33 1/3 per cent was indicated. While at this writing no actual prices have been set, still the rumored price of \$1125 on the civilian Jeep is interesting, as it is about the same as a pre-war Buick. With its four wheel drive and power take-off, it is mechanically more complicated than a conventional car. However, the body does not have the appointments of a passenger car. Compared to the pre-war Willys, the price is about double. Before the war a light agricultural tractor was priced at about \$600 and a sizable truck could be purchased for \$1100. These are of course, idle speculations but certainly increases of at least, if not more than 1/3, are indicated.

Meanwhile Detroit continues to

hurl imprecations on O.P.A. for not settling this all-important matter.

O.P.A. is getting around to considering price ceilings on new cars, although belatedly. A team from that agency visited Ford Motor Co. and Chrysler Corp. at Detroit recently and then went on to Studebaker at South Bend. There has, as yet, been no indication of how soon prices may be set, nor will any of the companies visited discuss any details of the meeting with the O.P.A. representatives. The visit to the automobile manufacturers tends to confirm reports that prices may be set on the completed car, leaving the companies to settle parts prices with suppliers, since the manufacturers would hardly be in a position to determine their cost increases if ceilings still were to be set on components.

---

With SSR-49 postponed temporarily because of vigorous protests from shop owners all over the country, the automotive maintenance world is watching O.P.A.'s next move. On September 1st, the regulation is reported to go into effect. For timely views on this important subject, read the article on page 21 of this issue.

### Does This Include SSR-49?

FRED M. VINSON, new Secretary of the Treasury and former Director of the Office of War Mobilization and Reconversion, states that V-J Day will be a signal for removal of most war-time controls.

It is to be hoped that that includes SSR-49.

### Situation: Clearing And May Improve

MR. JOHN Q. Car-owner holding an "A" card won't get new tires for his car before March in the opinion of J. L. Collyer, retiring, W.P.B. Rubber Director. Of course a sudden termination of the Jap war would open up the sources of natural rubber, and at the same time materially reduce or eliminate the Army's and Navy's requirements. Under such conditions civilians would receive these tires at a much earlier date. As a side light, O.P.A.'s relaxation of the prohibition against letting new tire dealers start up to permit veterans to obtain stocks of tires is clearly an indication that the situation is easing.

## **The First to Those 'Who Need'**

**S**HEDDING an interesting light on the production, sale and distribution of the post-war car, the Iowa poll of the *Des Moines Sunday Register* points out that 82 per cent of Iowans want the first cars to go to those who need them. Of greater interest was the answer to the question—"How long do you expect your car to keep running?" Only 5 per cent of the car owners expected their cars to operate for less than a year while about 52 per cent thought their cars could be kept running for two or more years. Also 50 per cent of those interviewed named tires as the limiting factor in the continued operation of their car. An indication of the amount of pure guessing that goes on in answering such polls is shown by one per cent stating that they expected their coil to fail within a year. If anyone can tell beforehand when a coil is going to fail, they have quite a future ahead of them as a clairvoyant.

## **Rubber Industry Merits High Praise**

**I**N addition to the automotive industry, Americans can feel justly proud of the rubber industry and the contribution it made toward winning the war. With very little preliminary experience in the production of synthetic or its use, it started from scratch to build the necessary plants and equipment with which to beat the Axis. By 1944 it was producing synthetic rubber tires for civilians at the rate of over 18 million per year and truck tires in excess of 14 million, or nearly twice the rate

of producing trucks tires in 1939. At the same time it was developing and producing enormous quantities of goods for the armed forces.

## **Dealer Discounts Remain Foggy**

**J**UST what will be the final outcome of O.P.A.'s efforts to lower car dealers discounts is still anyone's guess. Chester Bowles in a letter to a group of dealers in Venango County, Pa., stated that "no policy will be applied in fixing retail prices for new automobiles and affecting automobile dealers without full consultation with that industry." Which, of course, is a politician's statement which promises nothing. The N.A.D.A. refuses to divulge its plans for publication but is keeping close watch on the situation and feels that the situation is under control.

Possibly that attitude may appear to be a little sanguine to anyone who has followed the Washington scene.

## **Soviets Start New Car Production**

**W**ITH Detroit starting production of post-war cars, it is interesting to note that the Soviet Government has announced as having given the green light for the production of passenger cars and trucks. Included is a "victory" car described as a five passenger model capable of 75 m.p.h. and gas mileage in excess of 20 m.p.g.

**Designed to aid you in advertising your services, "Advertising Sells" appears on page 22 of August MOTOR AGE. Packed with scores of helpful suggestions, it is definitely a "clip and save" article.**

## **Absence Makes the Parts Grow Fonder**

**P**RELIMINARY reports from the sales of surplus stocks of automotive parts held in Chicago by the Department of Commerce indicate the car dealers and maintenance men are conspicuous by their absence. Such parts as condensers, rotors, and breaker points going for less than a dime each, twenty-five cents for King bolt assemblies and piston ring sets for less than a half dollar, gives an idea of how the prices run at such sales. While many reasons have been advanced for the scarcity of car dealers and independents at these sales, the big reason probably is that they prefer to purchase their parts through the normal and conventional outlets. Furthermore, few maintenance establishments have the warehousing facilities to store a sufficient volume of parts which would make such an investment profitable.

## **New Roads Aid Auto Maintenance**

**D**URING the first three years of peace, 3 billion is to be spent on roads designed for maximum safety at 75 m.p.h. in rural areas and 45 in cities. These are being planned by the government according to an announcement by Major General Fleming, Administrator of the Federal Work Agency. Not only will the project provide considerable employment for work crews during the actual construction, but automotive maintenance establishments will also be benefited as good roads and high speeds always result in increased service.

# SLANTS ON THE News

## Good News Is Welcome News

ONE of the most welcome pieces of news to be received by the industry and particularly by the maintenance division, is the lifting of the restrictions on the production of shop equipment and mechanics' tools. All through the war, repairmen have been forced to meet many problems in order to keep essential transportation running. Scarcity of parts, lack of equipment, shortage of trained mechanics and last but not least, an inadequate supply of hand tools, all contributed to intensify the problems of the maintenance industry, so that greater effort and more time was required to do a job. However, with the restrictions removed on the production of hand tools and shop equipment, the maintenance industry will be in a better position to speed transportation and win the war.

## Parts Show Unlikely Until V-J Day Comes

A GENERAL bulletin of the M.E.M.A. giving the results of a survey made by the Association shows that the majority of members are strongly in favor of having the A.S.I.S. annually as in the past. Opposition to regional shows is equally powerful. Attempting to weigh all the factors involved, particularly the opposition of the O.D.T. to the holding of meetings, seems to indicate that there is small chance of the show being held this year. However, it would seem to be a safe bet that there will be a gathering of the clans shortly after V-J Day.

## What Price New Gadgets

THE picturization of the S.A.E. survey on what the riding public wants to find in the post-war car and which appears in a recent issue of *Life* magazine, focuses attention once more on the fact that the car owner doesn't know much about the automobile business. Specifically they don't know that it is only by keeping costs down that the industry has been able to deliver cars at such low prices. Some owners, according to the S.A.E., want built-in jacks—one for each wheel. That sounds swell, but how many owners would be willing to pay about 25 bucks extra for a convenience that would be used possibly once a year. Others want head lights that turn as the wheels are steered. And can you imagine the kicks that would come in when the sliding roof started to leak? Increased cost due to higher wages and increase in material prices is sufficient to prevent any manufacturer from adding gadgets whose price would throw business to competition.

### • • • Unfortunate

Due to the shortage of paper and resultant paper rationing it was unfortunately necessary to omit a great number of scheduled advertising pages and also decline many new advertising contracts for insertion in this issue of *MOTOR AGE*.

Until war-time regulations are rescinded it will be necessary to limit the number of pages in each issue of *MOTOR AGE* in this manner.

## High Sales Loom For Rural Dealers

RURAL dealers, particularly those who have truck and farm implement franchises, for a time will probably have the edge on their metropolitan brothers, for in addition to this channeling of surplus military trucks to the farmers, rural dealers have the advantage of increased production of tractors and other farm equipment.

The demand for farm equipment, tractors and trucks, is reaching new highs and some manufacturers believe that the annual production of tractors may quadruple after the war. That would mean an annual production in excess of one million tractors. That this is an optimistic point of view is readily apparent when one considers that there are only two million tractors in use on farms today and not every farm would find a tractor economical.

## Wanted Urgently: A Price Formula

FRANK RISING, general manager, and the members of the Automotive and Aviation Parts Manufacturers, Inc., are to be commended for the vigorous stand they have taken in placing squarely on the shoulders of Chester Bowles full responsibility for failure to provide a long promised pricing formula for automotive parts. Instead, manufacturers have received another questionnaire and the Association believes that mass unemployment, stagnation of the industry and the possible start of a nation-wide business recession will result unless O.P.A. acts quickly to provide a price formula.



The postwar Jeep, adapted for peacetime work, is shown operating a seeder.

# Civilian Jeep Announced

**Postwar Jeep makes its appearance with  
modifications for civilian use**

THE civilian version of the GI jeep just announced by Willys-Overland Motors, Inc., is said to combine the characteristics of a light truck, a tractor, mobile power unit, and passenger car with the provision of suitable attachments and accessories. The civilian Jeep resembles its military counterpart and shares many of the same design features. However, it does embody numerous changes in the design and size of units in the interest of providing adequate capacity and life for heavy duty jobs.

The basic chassis is rated  $\frac{1}{4}$ -ton, 4 x 4—four-wheel drive—with front steering, and 80 in. wheelbase. Track is 48 $\frac{1}{4}$  in. with a road clearance of 8 $\frac{1}{2}$  in. at the axles. Maximum GVW—3420 pounds maximum payload—800 pounds; maximum drawbar pull, for continuous service—1200 lb. The frame remains the same as on the military model except for detail changes such as additional members

and reinforcements.

The engine is the same as on the military model and the same as it was on the Willys American. It is of L-head type, four cylinder, 3 $\frac{1}{2}$  in. bore x 4 $\frac{1}{2}$  in. stroke, 134.2 cu. in. displacement, rated 60 hp at 4000 rpm. (rating as a passenger car engine in 1942 was 63 hp at 4000 rpm.) Pistons are of aluminum as before, with a three ring setup. It mounts a Carter WO-596S downdraft carburetor connected by flexible air hose to an Oakes heavy duty oil bath air cleaner. Purolator oil filter is supplied at extra cost. The crankcase is ventilated by a sealed system from the air cleaner tube to the intake manifold, connected by a tube to the valve spring cover.

Owing to the use of accessory drives and power take-off for various applications the engine will be fitted with a King-Seeley mechanical governor at extra cost wherever controlled constant speed operation is de-

sired. The governor is of variable speed type with a control handle at the instrument board to permit changes for any desired speed range. The governor is belt-driven from the crankshaft pulley. To accommodate this, the engine is fitted with a double pulley, the outer groove for the accessory drive, the inner for governor drive.

Electrical equipment remains the same: USL 15-plate, 100 amp. hr. 6-volt battery; Auto-Lite generator, shunt-wound, 35-amp. capacity, with grease seal bearings; voltage regulator; Auto-Lite distributor IGW-4177-1. Headlamps follow passenger car practice—Corcoran-Brown 7-in. sealed beam units, with two separate parking lights set in the grille.

The Spicer front axle is of the same size and capacity as on the military job and has hypoid reduction gears with a gear ratio of 5.38 to 1. The differential housing is offset to the right side of the car. Drive to the rear wheels is through constant velocity universal joints. Lubricant capacity is 2 $\frac{1}{2}$  pints, with an additional requirement of 12 ounces of lubricant for the joints.

The rear axle also is made by Spicer—model 23-2—and is the same as the military unit except for gear ratio which is 5.38 to 1. It is of full-floating type with hypoid gears and has the differential offset to the right side of the car. Lubricant capacity is 2 $\frac{1}{2}$  pints.

Although the shock absorbers are of the same type—Monroe telescopic hydraulic with two-way control—they are mounted differently on the new model. They are mounted outside the side rails with the rear shocks inclined to the front.

With four-wheel drive, the vehicle is fitted with two propeller shafts—Spicer 1261-1268 joints with journals

(Continued on page 40)

**J**UST what will be done concerning SSR-49 is still anyone's guess. At the time of going to press O.P.A. was holding meetings to determine its future course of action on the best method of maintaining ceiling prices on automotive maintenance work, while protests from the maintenance field continued to flood local and national O.P.A. offices.

Undoubtedly O.P.A. officials are sincerely trying to do a job of maintaining price ceilings, but it is difficult to understand how any new ceiling would be more enforceable than those existing at the present which established the levels at the prices in use in March, 1942. If the March, 1942 prices are not enforceable neither can any other prices be made to stick.

To anyone familiar with the setting of flat rate time schedules and prices it was a foregone conclusion that SSR-49 would not be satisfactory. However, O.P.A. officials can hardly be blamed for not learning the technicalities of pricing automotive repairs during the few months they have been in office, as most of the car factories have not learned that in the twenty to twenty-five years that flat rate prices have been in existence.

MOTOR AGE and the Chilton Company pioneered in the flat rate field while most car factories were fighting the issue. Early in its experience MOTOR AGE and Chilton learned that more time is required to repair a car that has been neglected and abused than it does to repair a car that has been carefully maintained. That does not apply to all repair operations, but obviously it takes longer to replace a fender that has become rusted than one that is new. That is why certain repair operations in the Chilton Manual are priced higher than the corresponding operation in a factory manual. This also accounts for the fact that many car dealers prefer the Chilton Manual to the one issued by the car factory. Car factories made their studies on new models that were carefully maintained and lubricated and furthermore, the work was performed by skilled mechanics, thoroughly familiar with the design and construction of the vehicle.

As pointed out in the instructions printed in the Chilton Manual, the prices "are the result of innumerable time studies, plus years of experience in the compilation of flat rate prices, plus extensive research of thousands of shop order tickets secured from leading independent repair shops. In other words, the repairs were made by average mechanics on a car in average condition.

The Chilton prices are designed to fit conditions as they actually exist in the field and that is why they proved so satisfactory to both car dealers and independent repair shops, not only during peacetime but since Pearl Harbor as well. Furthermore, many local O.P.A. offices have given it their



## OPA Lays an Egg

**Agency's action still uncertain as servicemen protest regulation**

highest praise.

Since the war started most car dealers are repairing all makes of cars and they are finding it extremely difficult to perform the jobs on other than their own make of car in the times specified by the respective car factories and which are quoted in the O.P.A. manual.

Operating under the current ceilings which established prices at the March, 1942, levels, presented many difficulties, but most of them would have been ironed out and eliminated by permitting a percentage increase to the existing prices. SSR 49 arbitrarily forces many establishments to reduce their rates, and the contention that it was needed to eliminate chiseling is invalid as it is not any more enforceable than the previous ceilings.

This regulation is a typical example of Governmental interference with

business. Regardless of the ability, experience or skill of the officials, chaos always results, and dishonest practices multiply when there is interference with economic laws.

Just what steps O.P.A. will take to get out of their dilemma is, of course, impossible to foretell. However, there seems to be a strong possibility that they will add additional repair operations to the 56 contained at present in SSR-49 and some observers also believe that O.P.A. might agree to a slight upward revision of hourly rates.

But it seems fairly certain that they will come out shortly with a revised or a completely new regulation.

But if a blanket increase in hourly rates is applied to the operations listed in SSR-49, many of the operations would be over-priced and the driving public would be penalized.

O.P.A. certainly has laid an egg.



# Advertising Sells

And builds profits

If you like to handle your own advertising and have some innate skill in expressing yourself, do so, for then your messages will be authentic, will bear the stamp of your own personality. John Wanamaker did that successfully, as have many other successful retail advertisers. You will get no end of enjoyment out of doing it if you have the ability.

Don't worry about sentence structure or fine writing. The thing to be is yourself—sincere, frank, forceful, interesting. The art of it is to establish your personality and to develop a personality for your business, so it will not be simply another automotive establishment, but will stand out from all the rest. If you can establish such a business personality, your fortune is made, for customers will flock to any place that has outstanding personality. They will brag about you and your service, send their friends to you, and work for you unceasingly by word-of-mouth advertising.

If you do not have that particular kind of ability, hire some enterprising young fellow who has ideas and

By E. WESLEY HEVNER

personality, and can express for you what you cannot do for yourself. Pay him a modest service fee for this work. It will be worth it. In small towns there are reporters or newspaper men willing to make extra money, and in large cities classified advertising will bring you ambitious younger men who know something about advertising, and who would be eager to do the work.

Your printer who supplies your stationery and who will print or multigraph or photolith your letters to customers and prospects, can be of great assistance to you if you will avail yourself of his knowledge and experience. Most printers are glad to help in the preparation of letters or any printed material, but you must show your desire for and appreciation of such help, or they will not stick

their necks out.

Let us at this point list all the possible forms of advertising you may be able to use. Here they are:

Signs on your building—outside and inside.

Signs on your service cars and trucks.

Service manager and mechanics uniforms.

Your slogan on all the above.

Phone book classified advertising.

Newspaper advertising—classified or display.

Thank you letters to customers.

Service check-up reminder letters to customers.

Friendly general letters to customers.

Sales letters to prospects.

Premiums given away with service.

Pay you own employees for suggestions.

Pay you employees a bonus, if possible, to give them an interest in your business, not obtainable in any other way.

Billboards or street car cards.

(Continued on page 42)



Each shop has its own personality, but it has to be established and brought to the public's eye.

Lighting up the car lot attracts more customers and compliments the autos displayed.



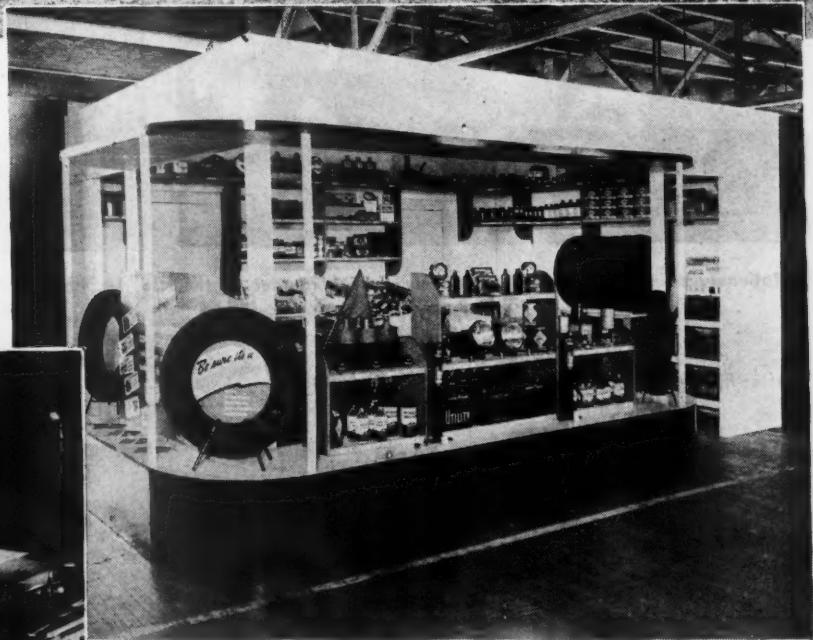


for Car dealers and Shop owners when properly planned and well presented



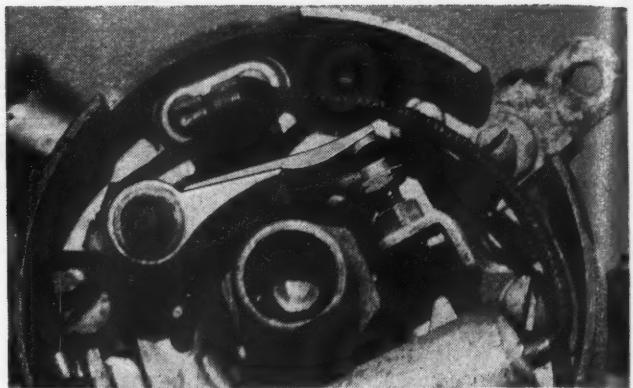
Roadsigns are particularly effective for shopowners in small communities.

Accessory displays like the one at the right afford an excellent means of advertising.

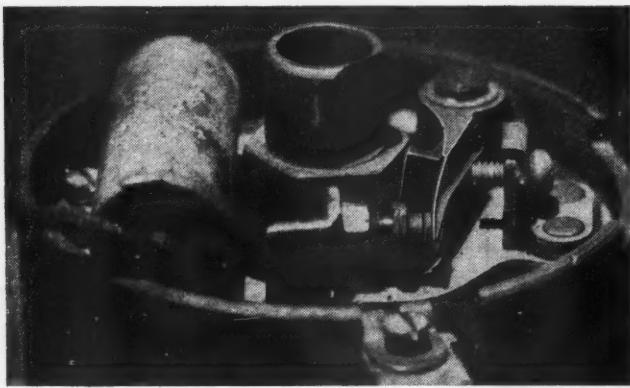


This is the second of two articles by E. Wesley Hevner on advertising designed to aid you in the planning and preparation of advertising methods for your business. Clip and save this and the July article to "blueprint" your own form of advertising for increased profits.

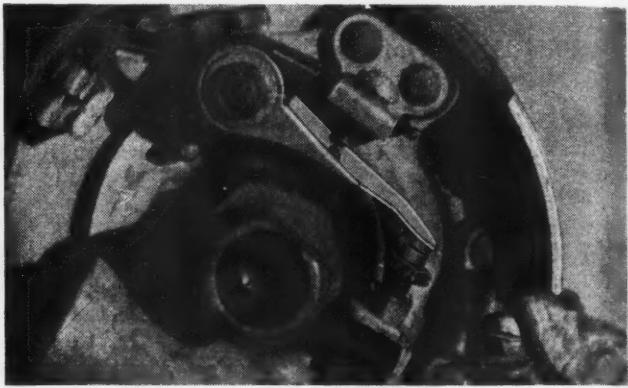
# Pointers on Installing Points



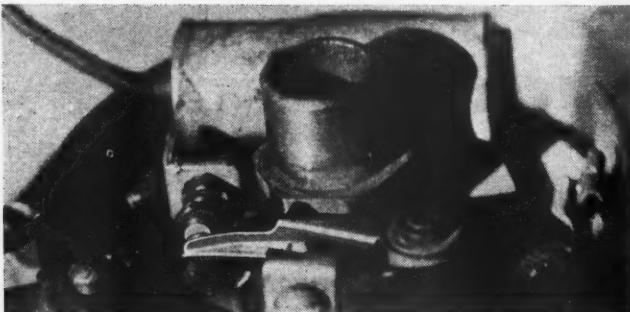
1. Movable point tight on post causing points to be held open.



2. Contact arm bent so that fibre rubbing block does not make full contact on the cam.



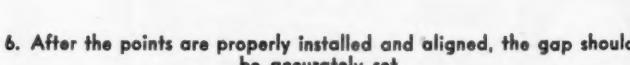
3. Contact arm bent causing points to make contact only on outer edge.



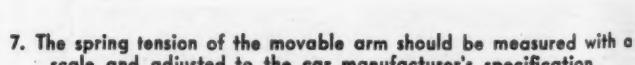
4. Stationary point post bent, allowing only partial contact of the points.



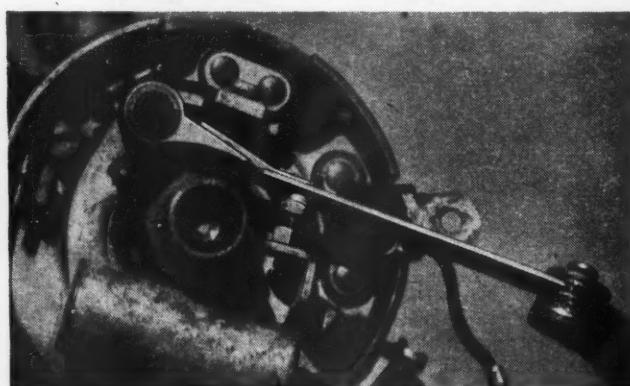
5. Movable contact arm bent downward but still in line giving contact only on a small area of the points.



6. After the points are properly installed and aligned, the gap should be accurately set.



7. The spring tension of the movable arm should be measured with a scale and adjusted to the car manufacturer's specification.



## **Servicing**

# 1945 Ford Truck Brakes

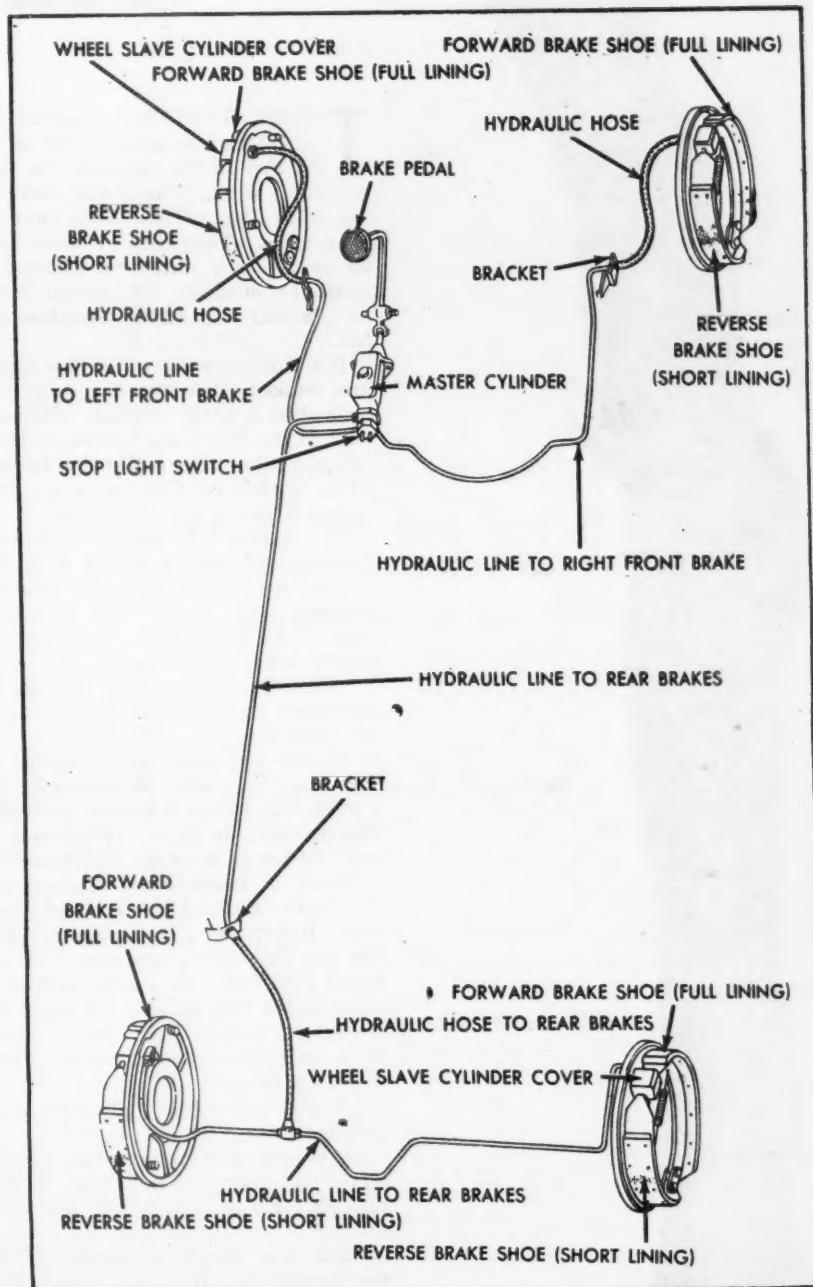
**Follow these Instructions When  
Servicing Models 59T, 598T, 594T**

**T**HE braking system used on the 1945 Ford truck is very similar to other hydraulic systems with a few differences in construction. These differences consist of wheel cylinder covers and brake shoe retainers and springs.

When making any adjustments on the brakes make sure that the brake pedal has  $\frac{1}{4}$  inch of free movement at the pedal pad before the brake pedal rod contacts the master cylinder piston. To adjust this clearance loosen the lock nut on the rod to the master cylinder, and turn the adjusting nut until the  $\frac{1}{4}$  inch of free play is obtained at the pedal pad. After this adjustment is made, tighten the lock nut.

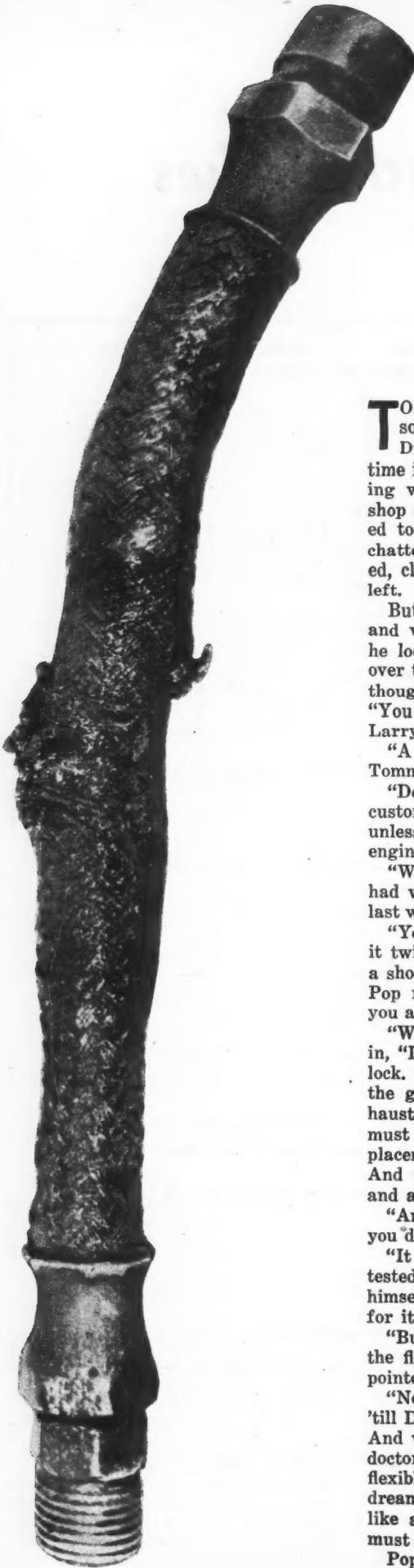
A minor brake adjustment is made by adjusting the cams on the reverse side of the brake backing plate. Turn the cam adjuster of the forward shoe toward the top outer edge of the brake backing plate until the shoe contacts the drum and the wheel cannot be turned by hand. Then back off the adjustment just enough that the wheel can be turned without any drag. The rear shoe is adjusted in the same manner except that the cam adjuster is turned toward the rear top outer edge of the brake backing plate. This operation must be repeated on each of the four wheels with the wheels jacked clear of the floor.

When making a major adjustment or anchor adjustment it is necessary to have a pressure of 20 to 35 pounds applied to the brake pedal. The anchor bolts are marked on the outer end with a punch mark and the marks should face each other toward the center. With the wheel jacked clear of the floor and the pressure applied to the pedal, turn the forward anchor so the punch mark moves toward the lower edge of the backing plate. Keep turning the anchor until the shoe just contacts the drum. Now release the pressure from the brake pedal and back up the anchor bolt



until the wheel turns freely. Lock the anchor bolt nut, holding the anchor bolt from turning while tightening the nut. Repeat this operation for the reverse shoe, keeping the pressure applied the same as when adjusting the

forward shoes. Repeat this operation at each of the four wheels, applying pressure to the pedal during the adjusting of each of the anchor bolts and removing the pressure when back-



## You Can't Fool

**T**OMMY WINTERS suspected that something was amiss when he saw Dr. Fay in the shop for the third time in a week. The doctor was talking with Pop O'Neill over near the shop office. Then both of them walked to the shop entrance, where they chatted a moment. The doctor laughed, clapped Pop on the shoulder and left.

But Tommy saw, when Pop turned and walked back into the shop, that he looked a little worried. He went over to Dr. Fay's car and regarded it thoughtfully. He called to Tommy. "You worked on Doc Fay's car with Larry, didn't you?" Pop asked.

"A couple of times," admitted Tommy. "Anything wrong with it?"

"Doc says there is. And he's one customer who don't come in gripin' unless he's got a case. He says the engine keeps stallin' on him."

"Why that's the same trouble he had when he first brought the car in last week."

"Yeah—and after we've worked on it twice. It's gettin' embarrassin' for a shop that thinks it knows its stuff." Pop rubbed his chin. "What was it you and Larry done the first time?"

"Well, to begin with," Tommy cut in, "Larry thought it might be vapor lock. But it was a late-model car and the gas line didn't get near the exhaust manifold. So Larry figured it must be the fuel pump. He got a replacement pump from Jack Davis. And we cleaned the carburetor, too, and adjusted it."

"And it was runnin' all right when you delivered it to the doctor?"

"It seemed okay to me when I road-tested it. Larry didn't take it out himself. He said he'd take my word for it."

"But, you didn't do nothin' about the flexible fuel line that time," Pop pointed out.

"No. Larry didn't think about that 'till Dr. Fay came back the next day. And when I drove the car out to the doctor's house, after we put in the new flexible line, it was running like a dream. But I guess it's been more like a nightmare to the doctor. He must be getting fed up with us."

Pop plunged his hands into the

pockets of his shop coat and frowned at the car. "He ought to be, but he ain't. Sometimes it pays to get a reputation for honest work. Doc knows we shoot square—and hit the bull's-eye most of the time. We never try to ring in no extra charges on anybody, and we never try to high-pressure 'em. So when somethin' goes wrong, like it has now, Doc is willin' to give us another chance. He wants his car—and fast—but he don't blow his top."

"I'm glad it wasn't somebody like Mr. Spender over at the bank."

Pop laughed. "Did you ever hear that the sour-puss used to work in a dairy when he was a boy?"

Tommy shook his head.

"They had to fire 'im. Every time he looked at a bottle of milk he curdled it. But that," he remarked, raisin' the hood of Dr. Fay's car, "ain't gettin' us off the spot we're on."

"What do you think is wrong?"

"I ain't sure," Pop admitted, "but I got a right to suspect that flexible fuel line you fellows put on."

"Why that was brand-new!"

"I know. But you cleaned and adjusted the carburetor, and you installed a replacement fuel pump. They couldn't very well be bad, could they?" A look of doubt crept over Tommy's face. "So," continued Pop, "it won't hurt us to have a gander at the fuel line."

"I don't see why they have to use flexible line."

"They've got to have something like that, the way they've been buildin' cars. You see," Pop explained, leaning over the fender and indicating the rigid fuel line that curved up from the frame, "it's easy to use a stiff line from the tank as far as the dash. The tank is mounted firm to the frame and so is the dash. There ain't no movement to interfere with the line."

"But," he added, indicating the fuel pump, "gettin' it to the engine ain't so simple. Every engine that's been built in the last several years has been mounted on rubber, one way or another. That leaves it bounce around a lot in relation to the frame. Now, if you was to run the rigid fuel line right to the fuel pump—that's at-

# with Fuel Lines

tached to the engine—you'd have it pulled to pieces in no time. So the engineers got around the problem by usin' a section of flexible line between the dash and the fuel pump."

Pop removed the flexible line from Dr. Fay's car and examined it critically. Then he put it to his lips, stopped one end, and blew through it. It hissed like a snake about to strike.

"There you are!" he said, tossing the faulty line over to a bench. "It's got as many holes in it as a doughnut factory. Better look in the office and see whether we got any more on the shelf. No. Wait. Call Jack Davis and ask him if he got any new ones in lately."

"Shall I tell him what happened?" asked Tommy, starting toward the office.

Pop thought a moment. "No. I guess we oughtn't to ride 'im."

Tommy paused. "That must have been an awful punk piece of line to go bad so fast."

"It was. But that ain't no fault of Jack's. He's only a jobber. He has to take what he can get—even if it's terrible."

"The trouble is," continued Pop, wiping his hands and putting the wiping cloth back in his pocket, "the people that make flexible fuel line are like lots of other manufacturers. They had to use substitute materials on account of the war. That wasn't their fault. Cars had to be kept runnin' somehow, and they done the best they could."

"Of course, I never seen a line go as fast as that one on Doc Fay's car—but there's been plenty of trouble with them war-time lines. And like Larry and you, a good many mechanics have been diagnosin' it as fuel-pump trouble or even vapor lock. They just couldn't believe it was in the flexible fuel line. We've had it happen here two or three times. Larry and you didn't happen to work on them jobs."

"Something ought to be done about it," Tommy snapped. "It's a waste of time to keep putting that kind of line in a car!"

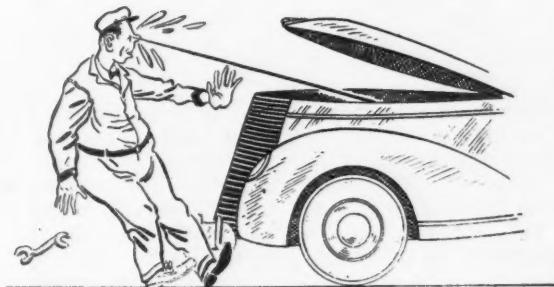
"One thing that would stop *all* this kind of trouble would be to stay out



**MOTOR AGE  
BASIC COURSE  
for  
MECHANIC TRAINING**

**Tommy Winters gets a 'timely line' on fuel lines from Pop O'Neill in the 44th article of this popular Motor Age Series**

By J. EDWARD FORD



of war," Pop added sagely. "But that's too radical, I guess. Jack Davis was tellin' me the other day, though, that he was gonna get some pre-war quality line. Call 'im up and see if it's come through yet."

"What if he hasn't got any?"

"We'll have to use some more of the stuff we've got on hand." Pop grinned broadly, "and we'd better make a clean breast of it to Doc. We wouldn't want him to start usin' war-quality pills on us the next time we get a pain!"



Present location of "Cossey's One Stop" Service establishment is shown above. Note easy access to building from all sides. Below, Cossey's first building.



## Selling Super Service

These two illustrations show the large business growth resulting from merchandising maintenance

By A. E. HOLDEN

COULD you operate your shop at a profit if every one of your mechanics were drafted and you had to curtail certain maintenance jobs? Well here's a husband and wife team that did just that and built service volume profitably by changing their operating policy to fit present war-time conditions, stepping up service and adding a full line of replacement parts.

Cossey's One-Stop Service was established by Rollin Cossey in 1921, in the modest family dwelling house on East New York Street, in a residential section of Indianapolis, Ind. His first venture was operating a tire repair shop, fixing flats, vulcanizing casings, and selling new tires, tube repair kits and small automotive accessories.

Like the farmer's turnip crop, it grew and grew, but Cossey's real progress began when he turned to complete automotive service, from motor tune-ups, brake service, front end service to complete motor overhauls.

In 1927 the corner residence and another house next to it were torn down to make room for a modern shop. In 1935, the shop was enlarged making a total space of 70 x 100 feet. Despite the depression, business had flourished under their guaranteed service program. Finally, house No. 3 was torn down, and upon this site, Mr. Cossey and his wife Katherine, built their new and present home.

When World War II broke out, Cossey was employing seven mechanics in addition to his own services

and Mrs. Cossey, who, down through the years has kept the books and assisted in financial management of the business. The entire new building, the equipment and the new home were built out of the profits earned in the business.

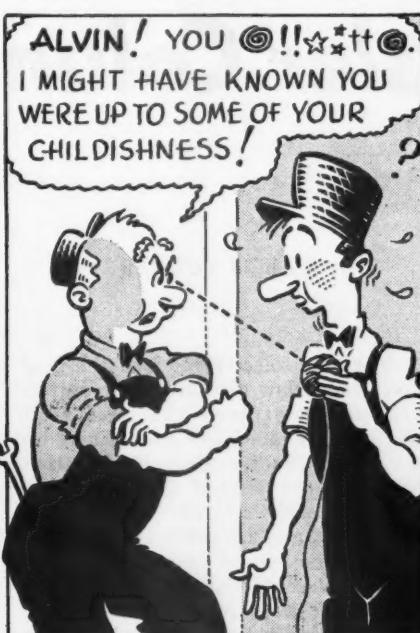
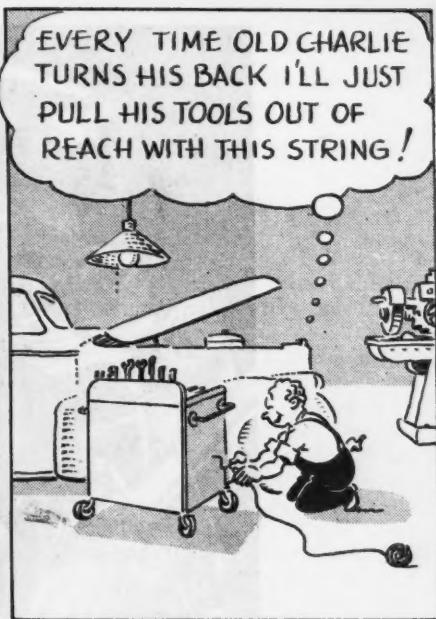
If you ask these business people what contributed the most to the growth of their independent automotive service they will tell you that many factors comprise their success over a period of 24 years, but Mr. Cossey expressed it correctly in one significant word, "Customers!"

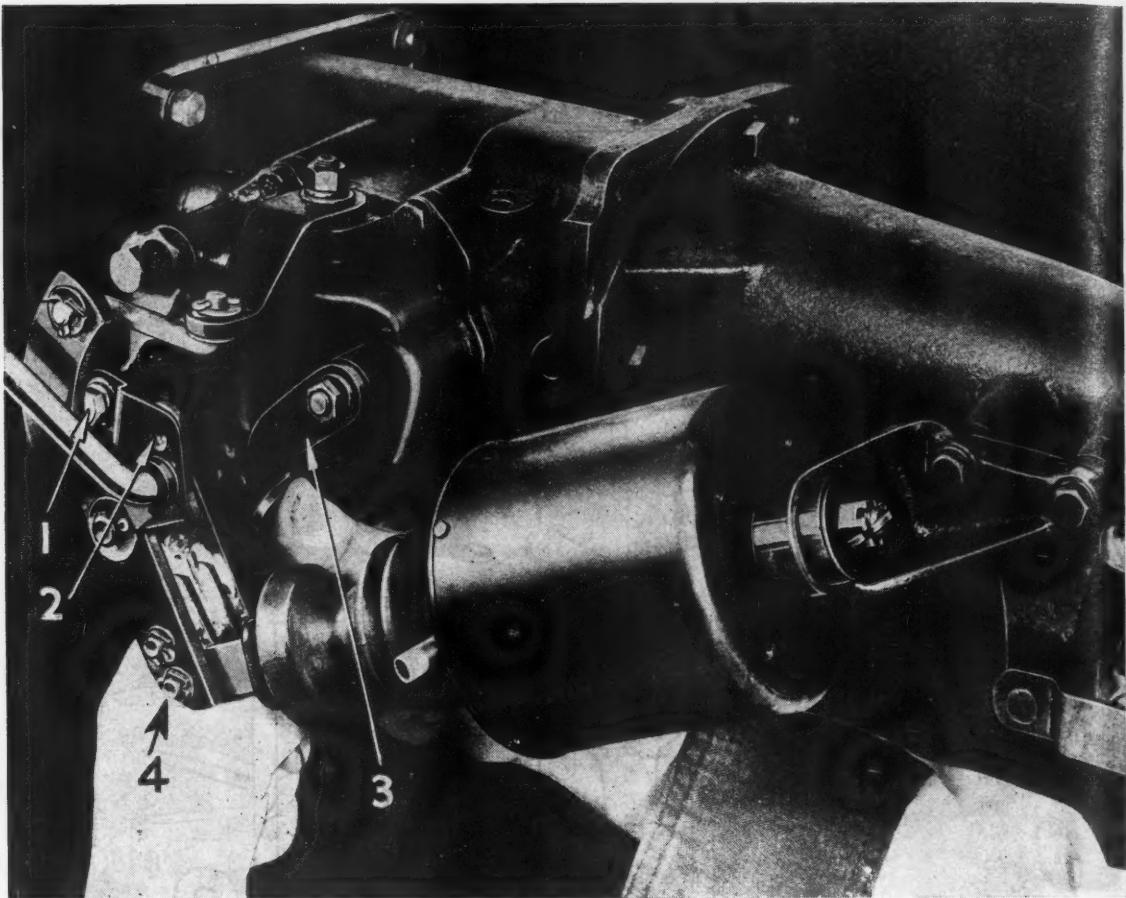
In explaining how they built up a clientele of steady cash customers, they pointed out the following basic rules, all important in developing a profitable business.

(Continued on page 56)

# GI GARAGE

by ADDIS KEAN





# Servicing Chrysler Column Shifters

In the June issue of *MOTOR AGE*, we gave you fellows the procedure for servicing the 1941-42 Buick steering column shifter, so in this issue we are going to give you the same dope for the 1941-42 Chrysler, DeSoto, Plymouth and Dodge.

On all these jobs there is the regular manual shift, and on some there is the power shift. The gear shift control is attached to the steering column jacket at the upper end by two Phillips head screws. To disassemble the gear shift control, first remove the horn button, the horn wire and the steering wheel. Next, dis-

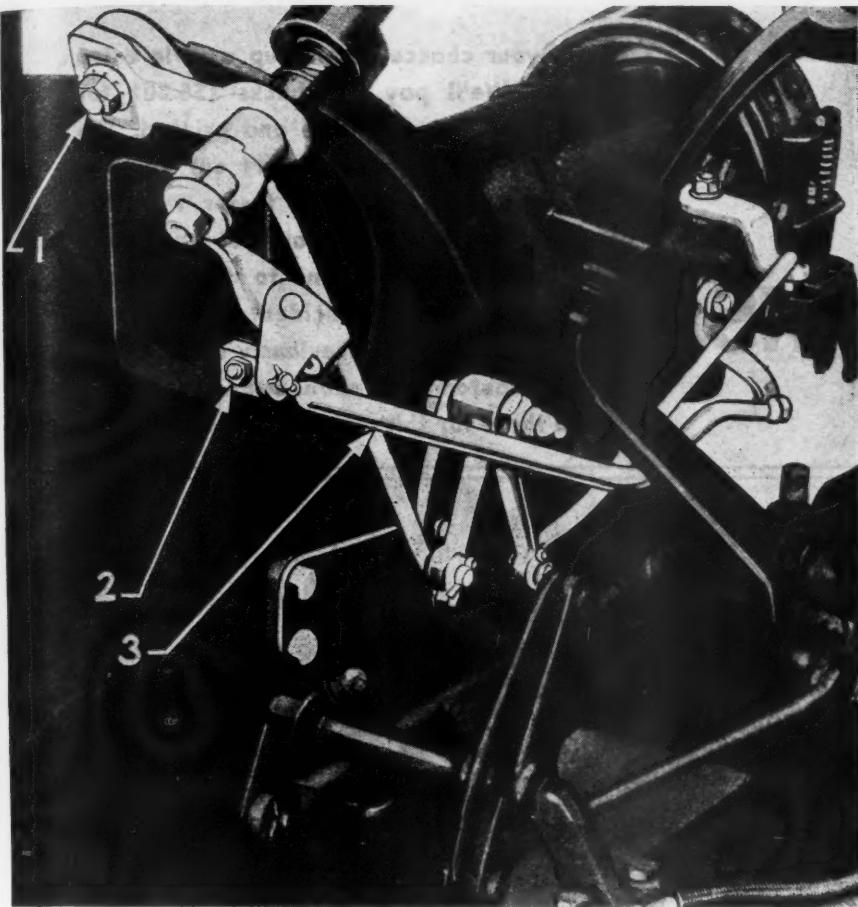
By **BOB TURNER**

connect the selector rod and the gear shift rod. Now disconnect the shifter rod end and remove the lever from the lower end of the rod. Then remove the Phillips head screws that hold the upper end of the control rod to the steering column. Pull out the control rod and the control rod handle. Remove the control rod handle bearing and screw. Then push the lever downward and remove the handle from the control rod. To reassemble

the unit reverse the foregoing procedure.

When adjusting the manual shift, the gear shifter control rod should be adjusted first. This adjustment of the gear shifter control rod between the steering column and the transmission is made as follows: First loosen the stud nut 1, Fig. 1 on the upper lever at the lower end of the steering column. Next, make sure that the transmission gears are in neutral position, and that the gear shift lever is set at a horizontal position, then tighten the lock nut.

The next adjustment to be made is



**Another "how-to-do-it" article on servicing shifters is again presented to aid in simplifying those jobs. Follow this detailed procedure to speed up your work.**

the gear selector rod. First make certain that the gears in the transmission are in the neutral position. Then loosen the lock nut 2, Fig. 1, on the selector rod at the bottom of the steering column. Then tighten the nut until all play is removed from the rod and back off the nut  $\frac{1}{2}$  turn for clearance. After the adjustment is completed, tighten the lock nut.

On models equipped with the power shift there are several adjustments which are necessary to make to insure the correct operation of this unit. If vacuum exists, and all connections are properly made, the controlling

factor in the operation of this unit is the position of the valve. When the valve needs adjustment, it will be indicated by a slow or sluggish shift one way. Adjustment of the valve is made by removing the clevis pin 4, Fig. 2, and turning the clevis in or out on the valve rod. When the shift is sluggish into second or reverse, the clevis should be screwed out on the valve rod. If the shift is sluggish into first or third gear, the clevis should be screwed in on the valve rod. Screwing the clevis too far in either direction on the valve rod will produce a sluggish shift in the opposite direction.

tion. The clevis should be moved only one-half turn at a time until the proper shift is obtained.

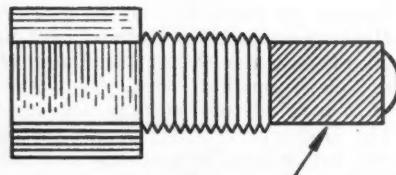
The neutral position is the point of engagement or indexing of the boss on the detent spring and the notch in the lever. To properly position the neutral point, first remove the selector rod 3, Fig. 1, and back off the detent spring screw 1, Fig. 2. Jack up the rear wheels clear of the floor and start the engine. Move the power lever and links back and forth a very limited amount. At the same time move the selector arm 3, Fig. 2, until a definite crossover is felt. With the levers in this position, move the detent spring so that the boss indexes with the notch in the lever and then tighten the clamp bolt on the bracket. Hook-up the selector rod and take up all play at the clevis, then back off the clevis one-half turn. Two types of neutral detent springs are used. The first type is a flat detent spring. The latter type is a spring and ball detent. The neutral adjustment procedure outlined above applies to both types of detent springs.

In some instances sluggish operation of the power unit may be due to a dirty air cleaner which is located on the frame and is connected to the power cylinder by a hose. The air cleaner should be removed every 15,000 miles and cleaned. To clean the unit, remove the two screws holding the unit to the frame. Remove the cleaner element, then clean it in a suitable cleaning compound. After the element is cleaned, dip it in heavy engine oil and reinstall the unit on the car.

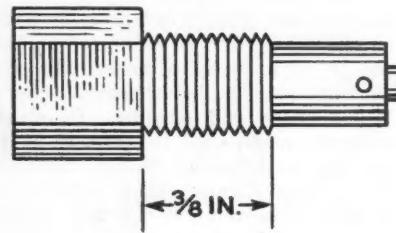
Another cause for sluggish operation may be due to lack of lubrication in the power unit. To lubricate the cylinder remove the vacuum and air cleaner line at the cylinder. Remove the cylinder from the car. Do not turn the internal valve yoke or damage it. Replace the power pin to prevent turning the valve yoke in relation to the cylinder yoke. Clamp the cylinder horizontally in a vise, and locate the piston rod in the mid-position. Hold the valve rod in the "full in" position and pour in  $\frac{1}{2}$  oz. of shock absorber or ice machine oil. Allow time for the oil to run through the valve port into the cylinder. Now hold the valve rod in the "full out" position and repeat the same operation. This puts oil on both sides of the piston. Work the piston back and forth several times and rotate the cylinder to coat the entire inside with oil.

# \$ 5 SHOP KINKS

Here's your chance to pick up a little extra money. We'll pay five bucks (\$5.00) for every Shop Kink accepted and printed. So send 'em in to us—some short cut you use in doing a job easier and faster than the other fellow—some special tool you made when you couldn't buy one to do the job—and we'll do the rest. Incidentally we won't accept any that have previously appeared in any other automotive publication. We've accepted these for this month's edition of M. A.



REMOVE SHADED AREA  
AND DRILL AND TAP FOR  
5/16-IN. S.A.E.



## Opening Locked Ford Doors

In opening locked Ford doors with vent windows I use two Chevrolet carburetor rods. This is the rod that runs in back of the carb. from the throttle to the accelerating pump and metering rod.

By using one to unlock the latch mechanism and the other to lift the handle you can unlock the car in less than a minute.

The rods can be slid very easily under the vent window just by forcing them lightly.

The main advantage of this is that the average shop can find several of these rods without much trouble. Should these rods be a little hard to operate, a common pair of pliers on each will make it a good bit easier.—*William Woodhall, 1414 Penna. Ave., Natrona Heights, Pa.*

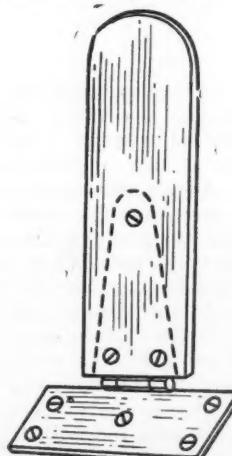
## Carburetor Repair

The carburetor float valve and seat as used in Dodge 1935-38 Stromberg carburetors Models EX-22 and EXV-2, has not been manufactured for over a year by Bendix Products. The drawing shows how a Chevrolet needle valve and seat can be used in conjunction with the old valve seat of all models EX and EXV Stromberg Carburetors.—*Dan Einzig, 616 Lyons Ave., Irvington 11, N. J.*

## Repairing Accelerators

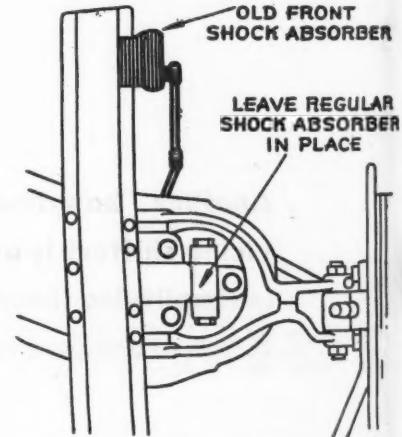
I have had a considerable number of autos lately where the accelerator pedal has rusted or broken off at the floor boards.

In view of the fact that it is impossible to get new ones, I have had to repair the old one. I have found a quick and neat repair by using a three-inch tee hinge which can be bought at any hardware store. Bolt the hinge to the pedal and floor board with 3/16 flat head stove bolts as shown.—*William Warden, R.R. 3, Box 227 T, Hazel Park, Mich.*



## Shock Absorbers

I have been unable to get new or exchange shock absorbers for 1939 and 1941 Chevrolets, and when these shocks wear out the front end bobs up and down so badly the car cannot be driven over rough roads. I take the front shocks with the links off old model Chevrolets from any junk yard at about fifty cents. I take the

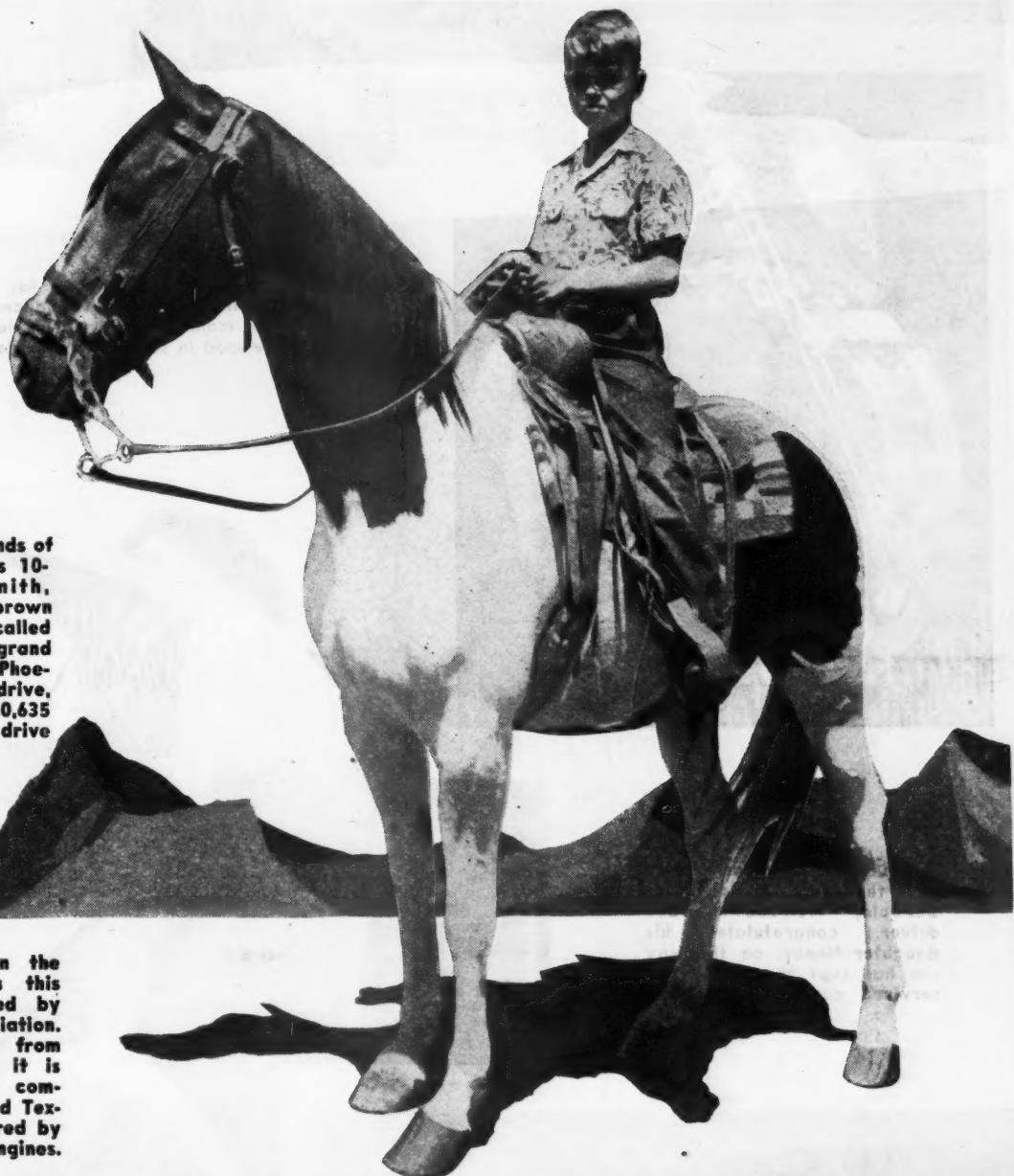


front bumper arm bolts through the frame out, and by rearranging, mount the shocks on them. I then heat the arms and bend out to clear the sway bar and burn one-half inch hole in sheet iron shield under the coil spring and anchor connecting link here.—*Woodrow Wilson, Covington Motor Co., Covington, Va.*

## Opening Oil Lines

Chevrolet oil lines often cannot be opened with compressed air. I use a high pressure grease gun that can be attached which will open it with ease.—*Herman Friesen, Friesen Garage & Machine Shop, Weatherford, Okla.*

# MOTOR AGE PICTURE GALLERY



The envy of thousands of Phoenix, Ariz., kids is 10-year-old Kerry Smith, astride his award, a brown and white pinto called Judy. Kerry was grand prize winner in the Phoenix paper salvage drive, collecting a total of 60,635 pounds of paper. The drive brought in 400 tons.

Largest truck on the highways today is this truck-trailer owned by North American Aviation. Measuring 77 feet from bumper to bumper, it is used between the company's California and Texas plants and powered by two V-8 Mercury engines.



Now that the British government has increased the gasoline ration in England, the car owners there are dusting off the family flivver and are taking to the highways again. This traffic tie-up resulted at Newmarket on Derby Day as everyone headed for the races.



Sweden, long noted for its anti-friction bearings, swings into peacetime production. This mammoth bearing is destined to carry the load in some shop manufacturing postwar material.

Back from overseas service with the Army, Lt. Col. Peter DePaolo, well-known race driver, congratulates his daughter Nancy, on the way she has kept the family car serviced during his absence.



Britain wins in the reconversion race as she sends us an Austin. This postwar model which will be available in limited numbers follows closely the design of the car produced for military use.



What with Japan being bombed almost incessantly by the Army and Navy, Jane Harker and Helen Bender, movie starlets, add their bit to the contributions. The rocket may not be real, but the idea is explosive.

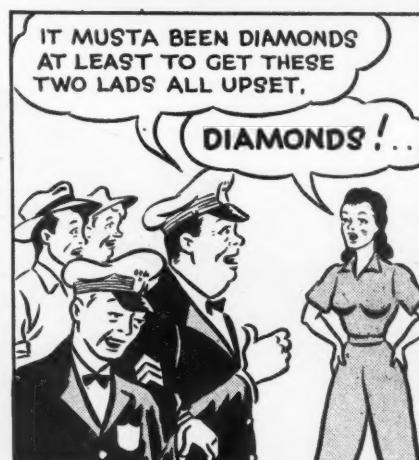
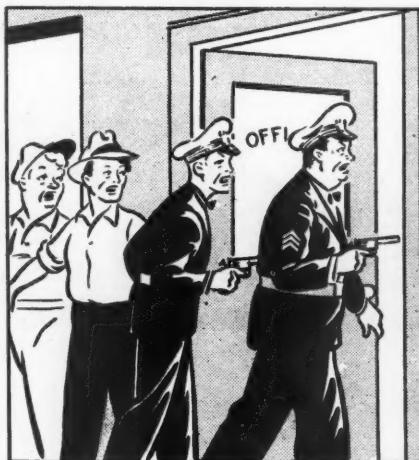
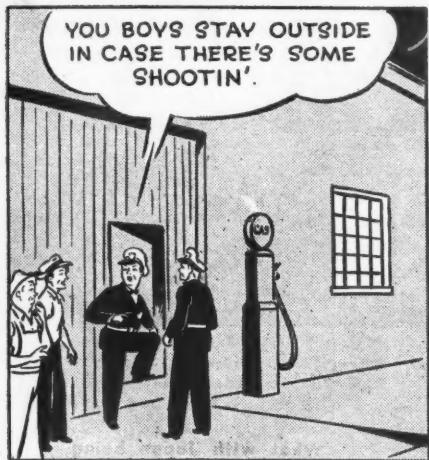
"Don't cross the bridge until you come to it," might be revised to read: "Don't cross a bridge while it's going up." The two Norwalk, Conn., occupants of this car were caught on the bridge when it began to open. Fortunately the driver managed to stop it from a fall into the river below.



# FRANK THE FIXER

STORY BY J.E. FORD  
DRAWN BY A.L. CASSEL

LAST MONTH THE BOYS GOT BACK LATE FROM A JOB AND FOUND HELEN AT WORK IN THE OFFICE. THEY DECIDED TO EAT BEFORE COMPLETING THE DAY'S CHORES. HELEN DID NOT JOIN THEM, A TELEPHONE CALL SUMMONED HER HOME. RETURNING FROM DINNER FRANK SEES A LIGHT IN THE SHOP AND SAYS, "SOMEBODY'S CRACKING THE SAFE!" NOW....





Bill Toboldt, Editor, Motor Age

## THE READERS'

# CLEARING HOUSE

## of Servicemen's Queries



### Steering Gear Vibrates

I have a 1939 Ford 85 on which I am having trouble with the steering. I have a complete wheel-aligning outfit and have checked caster, camber, toe-in and king-pin inclination, and have balanced the wheels. I have installed new king-pins, new shocks, new front spring and new tie-rod ends. There is nothing sprung or bent.

On a smooth or wavy road, the car handles all right but, when driving over 30 m.p.h. on a road that is just a little rough, or on a concrete road that has rough joints, you can't hold the steering wheel. When you hit a joint in the pavement that you ordinarily would not notice, the steering wheel shakes or vibrates.

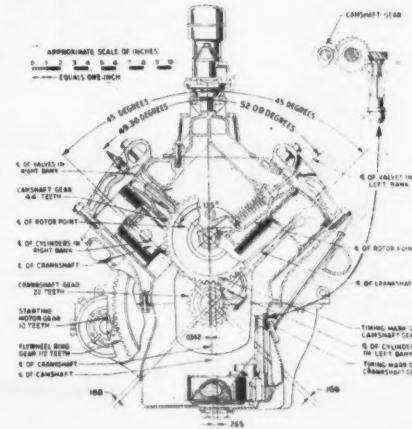
I have watched the front wheels, and they seem to jump when you hit the rough spot, and then shimmy for a second. Then they straighten out until you hit another rough spot. The car doesn't weave or wander.—A Florida Subscriber.

ALTHOUGH you mention that you have checked wheel alignment and have balanced the wheels, you do not mention that you have done anything to the steering gear itself. It seems to me that, if you are sure the front alignment points, such as caster, camber, toe-in and king-pin inclination are correct, your trouble is located in the steering gear. This gear should be set up so that there is no play in a straight-ahead position. I believe, if you will adjust this steering gear according to the regular procedure, you will be able to overcome this trouble.

### Shift Levers Lock

I have a 1939 Packard. When shifting from low to second, the shifting mechanism seems to lock, and I have to jiggle it around to make the shift. Can you tell me what is wrong?—A California Subscriber.

THIS condition is likely caused by the fact that the shift levers at the bottom of the steering column do not line up in the neutral position. I suggest that you bring these levers together and insert a pin through the aligning holes to hold them in this position and then disconnect the shifting levers from the rods at the transmission. Then adjust the short rod between the operating levers, which are just ahead of the transmission, and the levers at the bottom of the steering column. This adjustment should be made so that, with the operating levers in neutral at the bottom of the steering column and the levers on the transmission also in neutral, the rods are the right length to permit the clevis pins to enter the yokes.



### Oil Consumption

I put a new set of piston rings, piston expanders, oil-control rings on the intake valves and cleaned carbon and reseated valve in a 1934 Plymouth, as well as a new set of connecting rod bearings. This was done at 21,950 miles, and to date the car has been driven 26,511 miles, or some 4,500 miles since the job was done.

The engine does not smoke, and runs fine, but it uses 3 qts. of oil in 1,300 miles. There is a little oil leak at the rear main bearing. What can I do to stop this oil consumption?—A Minnesota Subscriber.

YOU have answered your own question when you say that there is an oil leak at the rear main bearing. Assuming the work you describe was properly done, the fact that the car does not smoke indicates that the oil you are losing is due to the leak at the rear main bearing. You realize, of course, that the oil will leak out in a much greater quantity when the engine is running at a higher speed than it will when the engine is idling, which is the speed at which you noticed the oil leak.

The answer, therefore, is to fix the leak and you will lick your trouble.

### Substituting Fluid

A question has come to our attention in regards to the fact whether or not you can substitute Hydraulic Brake Fluid for Shock Absorber fluid.

Will you please advise us as to what ill effects that Hydraulic Brake Fluid will have on the various types of

shock absorbers? Also, please advise as to the substitution of the above fluids. — L. K. Everson, Lt. (jg) USNR, U. S. Naval Magazine, Baltimore 26, Md.

YOUR question regarding the use of hydraulic brake fluid for shock absorbers is one that is not easily answered. However, there is no question that the brake fluid would be harmless to any of the rubber seals used in the various types of shock absorbers. It is my guess that the controlling factor in the use of brake fluid for shock absorbers would be in the viscosity difference between the two fluids.

Undoubtedly if the brake fluid were heavier than the regular shock absorber oil used in any particular make, trouble would eventually result from the valves in the shock absorber units and in any case would result in a change in ride characteristics.

## Spark Plug Trouble

I am having trouble with a 1945 Diamond T truck, Model 509, spark plugs are the main trouble, keeps oxidizing—I guess you would call it—the electrodes. Take the plugs out and file electrodes, and it will run fine for 1000 miles then the same trouble again. I changed plugs to a heavy duty. This helped some but does not take care of the real trouble. As soon as the plugs get bad the motor will miss under a load. Motor does not run hot. Coil, distributor and points are good. Condenser test O.K. Cam angle is correct.

I hope you can advise me on this trouble.—D. Henke, Henke Motor Service, Prairie Du Sac. Wis.

QUITELY possibly the difficulty you are experiencing with the spark plugs in the Model 509 Diamond T truck is because the type of plug is not suited to the particular work for which the truck is being used.

It is quite possible that this plug is too cold, and I would suggest you try a hotter type plug to see if this does not overcome your trouble. Your automotive jobber will be able to supply you with a chart giving the heat range in the particular make of plug he is handling which will enable you to select a plug more suited to this particular engine.

## Carburetor Difficulty

I am stuck with a problem concerning the carburetor on a 39-40 Buick.

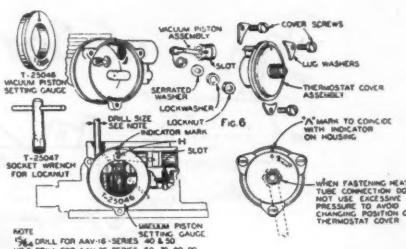
Here are the facts:—

I have now a new fuel pump, new points and condenser in the distributor, new spark plugs, supply lines cleaned out, also my automatic carburetor cleaned out and assembled.

When running, it is as good as one could wish, noiseless and steady; how-

ever, it takes a lot of starting. It starts and runs a few revolutions and dies down, hungry for fuel, although there is gas in the supply line to the carburetor and also in the small compartment where the small round screen is; but it does not seem to get there only after 8 or 9 times trying to start.

Everybody says it is this, that or the other. Can you help me?—Ralph Welbury, U. S. Army Ordnance, General Steel Castings Corp., Eddystone, Pa.



In describing the trouble you are experiencing with your 1939 Buick you neglected to mention whether or not you had overhauled the automatic choke on this carburetor. Even if you have had it overhauled, I would recommend that you overhaul it once more as the description you have given of your trouble indicates that quite possibly the trouble is in the choke.

I would also suggest that you recheck your fuel pump to make sure that it is up to standard.

Also, if you have not already done so I would suggest that you carefully check the compression in each cylinder and I would also like to point out that war-time fuel pumps and flexible lines leave a lot to be desired. There are innumerable cases where new pumps and lines have been installed only to later prove to be defective.

## Ford Power Unit

I am considering using a Model A Ford as a power unit for combines. Could you tell me the maximum r.p.m. and the r.p.m. at which I would develop the maximum power for belt use?

If I used the transmission, what is the ratio I would get in reverse, low and second gears?—A New York Subscriber.

THE Model A Ford engine developed a maximum horsepower of 40 at 2200 r.p.m.

I am sorry I do not have the ratio of the transmission at various speeds; however, you can easily obtain this by counting the number of teeth in the gears.

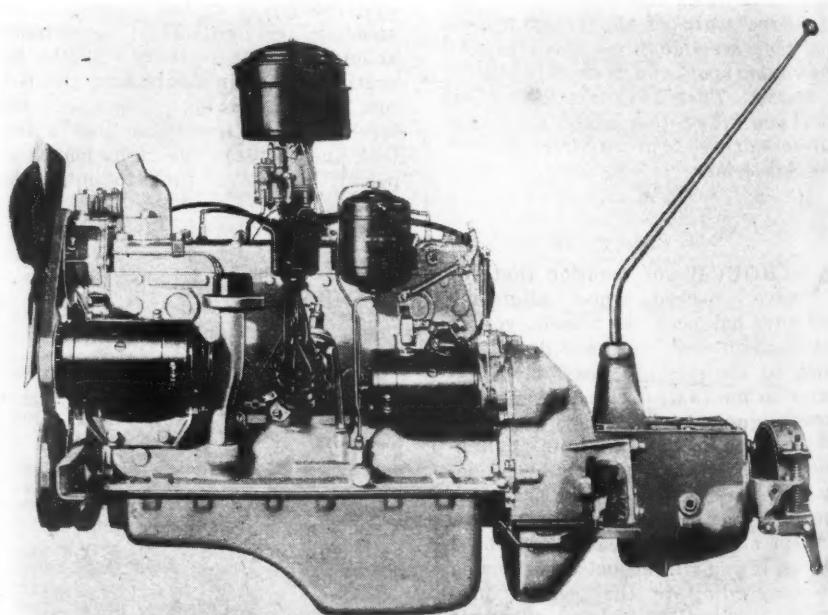
Model A Ford engines have been frequently used as power units and have in general given very satisfactory service. The only precaution necessary is to have a radiator of sufficient capacity to keep the engine from overheating. In making up such power plants, a large size truck radiator is generally found to be of advantage.

## Oil Leak

Could you give me a little information on a 1939 Plymouth? I have quite an oil leak coming out of the breather pipe on the right side of this motor. Is it due to improper breathing and lack of crankcase ventilation?—E. J. Noll, Clifton, N. J.

I BELIEVE the oil leak in your 1939 Plymouth is due to the suggestion you have made in your letter as being improper crankcase ventilation.

This leak can generally be overcome  
(Continued on page 48)



Studebaker published  
this Iowa dealer's  
"success story" 'way back  
in November, 1926...



November 4, 1926

MOTOR AGE



ED HOGAN

**In IOWA**  
*where the tall corn grows*  
**Studebaker sales grow, too**

OUT in Iowa, where the tall corn grows, is Marengo. It is a town of 2,048 people. In 1910 Ed Hogan signed the Studebaker franchise for Marengo. By 1914 the business had grown so John Hogan, Ed's brother, joined the firm. Now Ed and John look after all outside business and Joe Hogan takes care of things at the store. The first year Ed Hogan sold five Studebakers. In 1926 the firm will sell considerably more than a hundred.

"The thing which made me want a franchise sixteen years ago," said Ed Hogan, "should make any dealer want one even more today—Studebaker's known reputation for building only good cars makes them easier to sell. The way Studebakers 'stand up' on our unpaved roads makes everyone like them. Now, too, I have learned how fairly Studebaker treats their dealers."

Sixteen years the Hogan family has been a part of the Studebaker family. Sixteen years, each more profitable than the one before. Sixteen years of satisfaction for the Hogans—and their customers.

Sixteen years from now—in 1942—you can look back on happy a record. Merely tear out this page, fold it with your letterhead, and mail to Department 51, The Studebaker Corporation of America, South Bend, Indiana, for complete and confidential information. This simple step may double your profits in 1927.

**STUDEBAKER**

*and today,*

almost 19 years later, the opportunities  
with Studebaker are vastly greater!

**S**ELLING Studebakers for 35 years in a small town in Iowa, the firm of Hogan Brothers has long been recognized in the automobile business as one of the greatest per capita sales producers in the nation.

This dealership, continuously under the same ownership, has gone through two World Wars with Studebaker—and today, like hundreds of other long-time Studebaker dealers, Hogan Brothers see nothing but tremendous opportunity ahead.

It is due to the understanding co-operation

of such representatives that the Studebaker reputation for quality and fair dealing has acquired new luster with every passing year. That reputation is deep-rooted throughout the nation.

**Studebaker**  
PEACETIME BUILDER OF FINE CARS AND TRUCKS

Wartime builder of Flying Fortress  
engines—heavy-duty military trucks—  
Weasel personnel and cargo carriers

## Civilian Jeep

(Continued from page 20)

lubricated by high pressure Alemite fittings.

The clutch has been stepped up in size in keeping with increased duty. Made by Auburn Mfg. Co., the clutch driven plate is Borg & Beck 8 1/2 in. diameter with a torque capacity of 175 lb. ft. (the military clutch was 7 1/2 in. diameter).

The transmission is of a different model and of larger size, the new

model using the Warner Gear model T-90A, three-speed, with special rear mainshaft for driving the transfer case. The case has side-mounted shifting levers for connection to the remote control gear shaft linkage on the steering column. The transmission embodies some additional features for the Jeep. One of these is the use of an oil scoop in the front section to provide lubricating oil under pressure for the mainshaft pilot bearing. Another is the use of an improved oil seal at the rear bearing. In addition, the countershaft is mounted on needle bearings. The case is supplied with a breather and breather baffle.

The transfer case is Spicer model

18 with a 1 to 1 drive ratio and a 2.43 to 1 reduction. It is operated in conjunction with two control levers mounted on the floor of the driver's compartment. One is used for shifting the range gear, the other for de-clutching the front axle when desired. The controls are provided with an interlock so arranged as to prevent the use of the low range gearing when the front drive is dis-engaged.

The steering gear is a Ross model T-12 cam-and-lever type with a single pitman arm. A Thompson Products tie rod connects the right front wheel to the bell crank. The steering column also carries the transmission shift remote control mechanism.

At the customer's option, the chassis will be fitted with a standard power-take-off for implement drive. This consists of a front power-take-off unit mounted directly behind the transfer case, and a rear unit mounted on the rear cross member. The rear power take-off is driven by a separate propeller shaft with a simple declutching device. The rear take-off also may be fitted with an 8-in. pulley drive which will deliver up to 30 hp at 3100 fpm belt speed.

Brakes are Bendix internal expanding type hydraulic on all four wheels, with two-shoe double anchor design. Front wheels have one-inch actuating cylinders; rear wheels have 3/4-in. actuating cylinders. The one-inch hydraulic master cylinder is mounted on left side rail, just rear of the steering gear.

Nearly 75,000 general purpose vehicles and 16,159 combat vehicles, including 4462 "General Sherman" tanks, were destroyed or junked in the campaign against Germany, according to figures just released by the Ordnance Department.

**MODEL F-100**  
**\$177 50**  
SLIGHTLY HIGHER  
IN FAR  
WEST

**NO PRIORITY  
REQUIRED**



**FAST in-the-car  
CHARGING never  
paid Better  
Dividends than  
Right Now!**

**BATTERY SERVICE ON  
A MORE PROFITABLE BASIS**

**THESE OTHER PRODUCTS  
NOW AVAILABLE**

- 1. Gauges — (Compression and Vacuum)
- 2. Growlers — (Armature)
- 3. Syncographs — (Distributor Testers)
- 4. Test Stands — (Generator, Starter and Magneto)
- 5. Tune-up Testers — (Coil, Condenser, Volt-Amp., Tachometer, Contact Angle, and Combustion Analyzer)
- 6. Timing Lights and Cell Testers
- 7. Puller Presses and Radiator Test Plugs
- 8. Undercutters and Magnetizers
- 9. Welders — (Arc and Spot)

**ALLEN Equipment**  
ALLEN ELECTRIC & EQUIPMENT CO.  
KALAMAZOO, MICH.



"How do you like 'the good old days'?"



## RIGHT DOWN YOUR ALLEY

If satisfying customers is your aim, you'll get a 10-strike every time you install McQuay-Norris Rings — they never fail. Make it a point to handle only McQuay-Norris and you'll come up a Winner with a Profit, every time.

LOOK TO McQUAY-NORRIS

FOR THE RING OF THE FUTURE

Your **McQUAY-NORRIS** Jobber

ALWAYS NEAR — ALWAYS READY



## Advertising Sells

(Continued from page 22)

Calendars, blotters, novelties.

Join Chamber of Commerce, Rotary, Kiwanis, Lions—any local club.

Contribute your windows, or display space on outer or inner walls to all worthy causes, such as the Red Cross, Salvation Army, War Bond Drive, etc.

Do something no one else does in your community. Take the kids on any annual picnic. Have a fish-fry. Entertain at the Hospital;

whatever you like to do.

Newspaper publicity will follow anything you do that has news value. Ask some local newspaper man for advice as to what to start and what to do.

Radio programs.

Radio commercials.

Now, regardless of what form of advertising you start with, you can take it as gospel that whatever messages you use will make some impression, will be valuable to you, and

will bring you some business. Even if your copy or text, and pictures or illustrations, are not much more than the run-of-the-mill kind of advertising, they will still be profitable to you.

But it is likewise the truth that you will get more results from your advertising if it is original and different.

Advertising that is novel naturally stands out from commonplace advertising. Advertising that is original, catchy, interesting, forceful, quite naturally gets more attention than the other kind. Strive, therefore, to have that kind of advertising, but even if you don't have it, advertise anyway.

Develop a slogan, or a theme, or a central idea around which you can develop all of your advertising. Always put your slogan or central idea into everything you do in advertising. Put it on your service cars. Paint it on the cars you and your men drive. Print it on your bills and stationery. Put it on your window, on all your signs, and on your men's overalls.

The central idea or slogan should express the central idea of your business. First, find out or decide what that is. Ask yourself why you are in business. What is the main reason for your existence in business? How do you differ from your competitors? What have you to offer that they don't have? Or what can you develop in the way of service that is different and distinctive? Do you know your assets, and the distinguishing characteristics of your business?

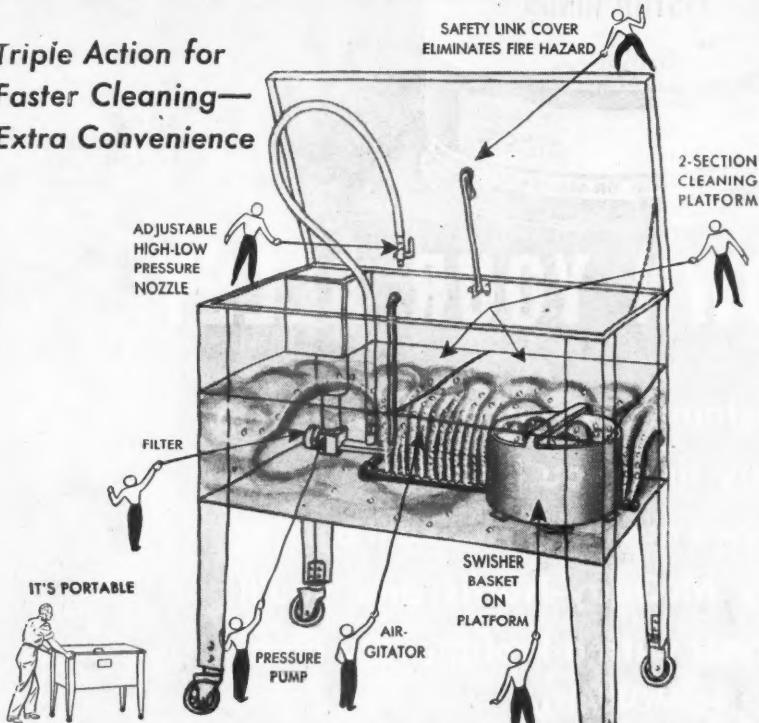
If you don't know in what respect you are better than your competitors, the survey previously mentioned will tell you. Seize on the one outstanding element about your business that you will find will be mentioned most frequently in the survey, and make that your asset to be advertised.

If the survey fails to uncover one single outstanding trait that you possess over competition, then you should develop one.

Remember that you are going to  
(Continued on page 52)

## LOOK AT THESE FEATURES! OF THE Gray-Mills Agitor PARTS CLEANING SYSTEM

Triple Action for  
Faster Cleaning—  
Extra Convenience



Here is the parts washer for you. It's portable, easy to use, efficient, and it provides 3 ways for removing grease, grime and oil. 1. Soak cleaning with Air-gitator action. Bottom rack accessory makes possible use of entire tank for

cleaning large pieces. 2. Swisher cleaning of small parts in bulk. 3. Pressure pump cleaning of larger parts and hard-to-clean cavities. Check the features in the picture above. Send for literature on this better, cleaning system.

GRAY-MILLS CO.  
1943 RIDGE AVENUE  
EVANSTON, ILLINOIS



**PARTS CLEANING SYSTEM**  
Agitene Cleaning Solvents

"Now don't you start! I heard enough from the customer about the job I did on his car."



# Distinguished in Battle...Conditioned for Greater Sales and Profits

It is axiomatic that the product which enjoys the greatest public respect will enjoy the greatest sale.

Champion Spark Plugs are in the enviable position of continuing to enjoy the greatest public preference\*.

Since Pearl Harbor the prestige of Champion Spark Plugs has been vastly enriched by the outstanding manner in which they have distinguished themselves in literally countless wartime assignments, on land, sea and in the air.

Champion's national, farm, and vocational trade paper advertising cites this record in the largest spark plug campaign in history.

Definite consumer preference strengthened by their distinguished service in battle makes Champion Spark Plugs your first choice for greatest sales, turn-over, and profits.

\* 12 consumer brand preference surveys made within the past 5 years.

DEPENDABLE

# CHAMPION SPARK PLUGS

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

When writing to advertisers please mention Motor Age

# Servicing Door Latches

Follow these detailed instructions on  
maintaining Chrysler door latches



**R**EMOVE the garnish moulding and ventilator assembly around the window. Next, remove the inside door handles as shown in *Fig. 1* by pressing the escutcheon plate against the trim panel, exposing the pin which holds the handle to the shaft. Push the pin out of the shaft and the handle of the escutcheon plate can then be pulled off the shaft.

Take out the cylinder lock screw anti-theft cover and loosen the set screw 1, *Fig. 2*. Pull out the lock

cylinder barrel, *Fig. 2*, as indicated. If the car is provided with an arm rest, it must be removed.

Pry the trim panel away from the door frame. This will unsnap the wire fasteners. These fasteners are on both sides, in the center and at the bottom of the panel. The panel can then be removed by pulling it outward as shown in *Fig. 3*.

Remove the three screws which hold the remote control base to the inside panel of the door and unhook

the base from the remote control bar as indicated in *Fig. 4*.

Remove the outside door handle escutcheon plate screws and screw 4, *Fig. 5*, then pull out the door handle. Loosen the two upper screws 1, *Fig. 5* and remove the two lower screws 2, *Fig. 5*. Take out the four screws 3, *Fig. 5* which hold the assembly to the door frame, also the screw that holds the assembly to the inside panel. Lower the latch assembly and pull it through opening in the door panel.

# AUTO-LITE

BATTERY CABLE WITH  
ANTI-CORRODE Terminal



THIS TYPE  
STANDARD  
ON SIXTEEN  
MAKES OF CARS

PREVENTS  
RUINOUS  
CORROSION

#### Auto-Lite Anti-Corrode Battery Terminal Resists Corrosion Trouble — Does Not Wear Away

Whenever battery terminals need service or fail from corrosion, use Auto-Lite Battery Cables with the famous Anti-Corrode Terminal for replacement. Properly installed, this terminal resists corrosion that builds resistance and restricts proper cur-

rent flow to the starter and other electrical units. Get the complete story of this easy-to-sell, easy-to-service battery cable. See your jobber's salesman or write to



THE ELECTRIC AUTO-LITE COMPANY

TOLEDO 1, OHIO

Merchandising Division

TORONTO, ONTARIO

# AUTO-LITE *Automotive* WIRE and CABLE

TUNE IN "EVERYTHING FOR THE BOYS" STARRING DICK HAYMES — EVERY TUESDAY NIGHT — NBC NETWORK

AUGUST, 1945

When writing to advertisers please mention Motor Age

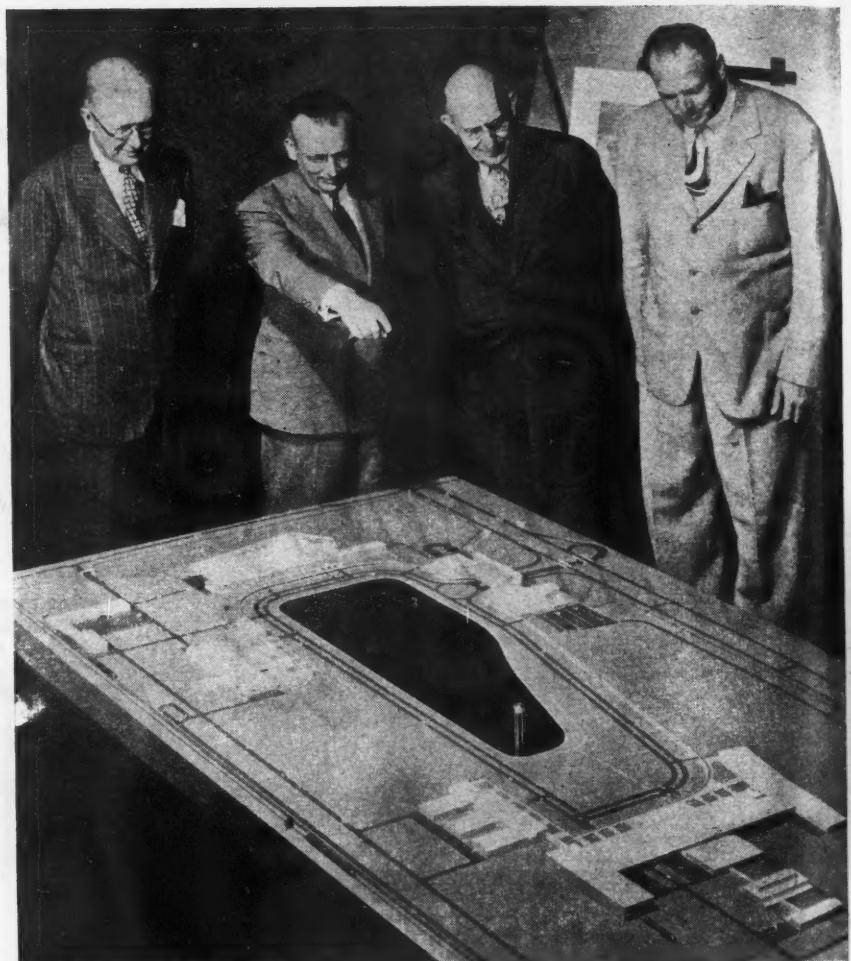
45

## General Motors Technical Center

ATING modern science as the real source of economic progress and the creator of a higher standard of living with more and better job opportunities, Alfred P. Sloan, Jr., chairman of General Motors, announced what is believed to be an entirely new concept of industrial research through Corporation plans for what will be known as the General Motors Technical Center. This will consist of a group of buildings which will provide facilities for the Corporation's research, advanced engineering, styling and process development sections of its general staff activities.

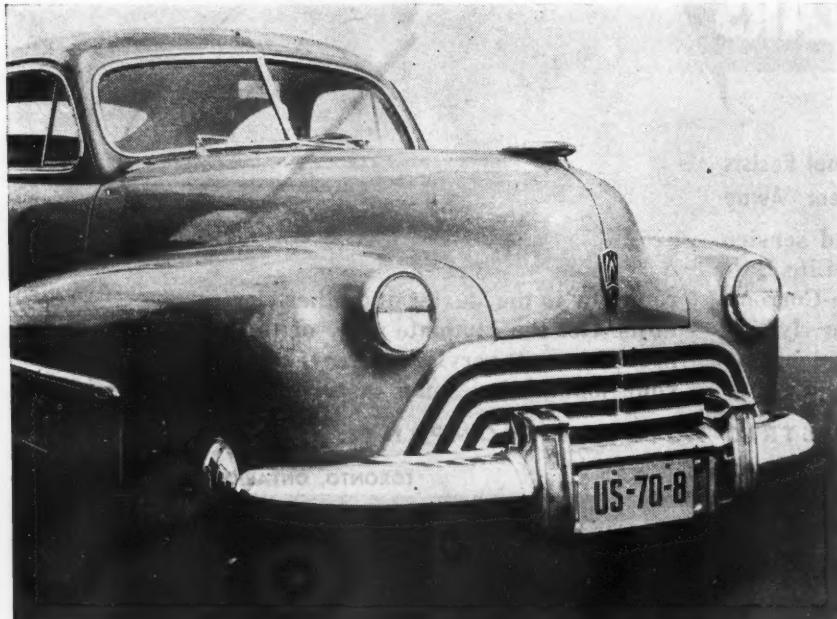
The various buildings comprising technical center will be grouped around a central esplanade within which will be a seven-acre lake which in itself fills a useful purpose in the operations of the Center. The buildings will be of contemporary functional architecture. The Center will be erected on property one and one-half miles long and about half a mile wide covering approximately 350 acres, just outside of Detroit, Mich. Construction will start as soon as clearance can be obtained from proper Government agencies.

"Naturally, the cost of such a project will be substantial. It should be looked upon as an investment in in-



Scale model of General Motors' "scientific and engineering workshop of tomorrow"—the new GM Technical Center—is inspected by executives. Left to right: W. J. Davidson, executive engineer; C. L. McCuen, vice president in charge of the engineering staff; Charles F. Kettering, vice president and director of research, and Harley J. Earl, vice president in charge of the styling section.

## New Oldsmobile Announced



The 1946 Oldsmobile, first of all new General Motors cars to be shown, will make its initial appearance in the early Fall. New styling, finer performance and quality are featured. The Hydra-Matic Drive has undergone extensive improvement during the war and is basically similar to units now being used on army tanks and other military vehicles.

dustrial progress, Mr. Sloan stated.

"Modern science is the real source of economic progress. It has brought within the reach of more and more people more comforts and conveniences, more leisure and more and better job opportunities. There can be no ceiling on opportunity if science continues to move forward. It is to accelerate the progress of scientific advancement that the General Motors Technical Center is dedicated."

As outlined by General Motors executives at the meeting the GM Technical Center will bring together at one place, and at a location physically closer to the manufacturing divisions, the research and experimental development facilities of the corporation. This regrouping of facilities will provide for a more rapid interchange of ideas among the technical personnel of the corporation.

(Continued on page 60)



## GIVES HORSEPOWER MORE WALLOP!

**CASITE**  
GUARANTEES BETTER AND  
SMOOTHER PERFORMANCE  
OR  
DOUBLE-YOUR-MONEY-BACK

● Stop that sputter, stop that jerk! Keep motors clean, keep them keen, with **CASITE**! It reduces harmful sludge and gum... frees sticky rings and valves... improves lubrication. Talk up the Guarantee and watch the sales roll in.

THE CASITE CORPORATION • HASTINGS, MICHIGAN

**GUARANTEE** — Add Casite to crankcase and run through air intake according to instructions, then drive your car 100 miles or for 60 days, whichever is first. If not convinced that Casite gives you better and smoother performance, you get double-your-money-back by filling out guaranteed certificate and mailing it to The Casite Corporation, Hastings, Michigan. Maximum refund is \$1.30 per pint, twice the nationally advertised price of Casite.

A pint in the crankcase every oil change • A pint in the air intake every three months



## Clearing House

(Continued from page 38).

by thoroughly cleaning the oil filter cap screen and the ventilator pipe which carries off the fumes below the engine.

## Engine Lacks Snap

We needed a motor block assembly for a 1942 Ford V-8, were unable to get this model, so we installed a block

assembly made up for a 1941 truck—both blocks were with steel sleeves and pistons.

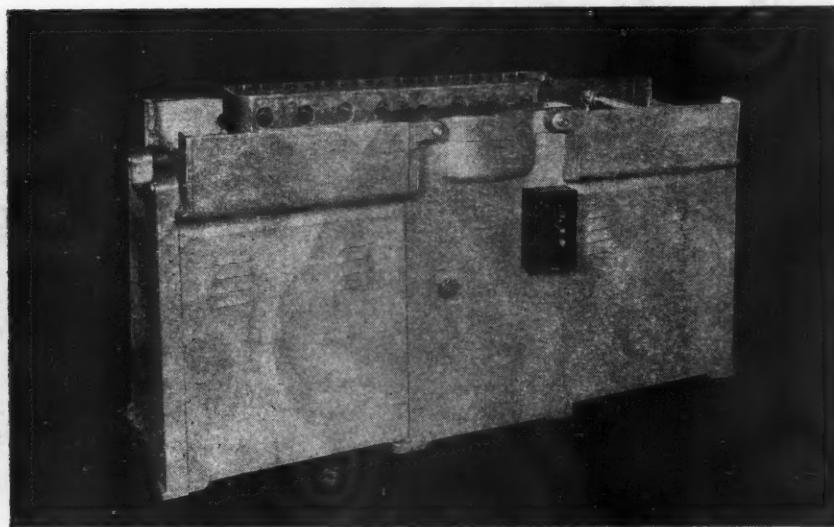
In using this model we had to make a cast iron spacer  $\frac{3}{8}$  in. wide and put between the distributor and timing gear cover. This spacer is drilled to take care of vacuum control. We used a gasket on both sides of this spacer and the distributor is held in exactly the same position as before.

The car starts okay and idles okay but it has no snap. Get it to 30 or 40, and from there on it seems to be okay. We have put on a rebuilt distributor

and a new carburetor. Have also tried a different head on each side, that is a truck head to get more compression, but it hasn't made a bit of difference.

The car just doesn't roll freely until you get up a little speed. Maybe it isn't noticeable at high speed. Later we re-sleeved the original motor and put it in a 1938 V-8. On this job we had to weld  $\frac{3}{8}$  in. on the end of distributor shaft for length. This car runs perfect in every respect.

Why won't the 1942 run okay? And also we checked the valve timing and it is okay. The above mentioned 1941 block assembly was new.—Alex McManis, Garrison, Kan.



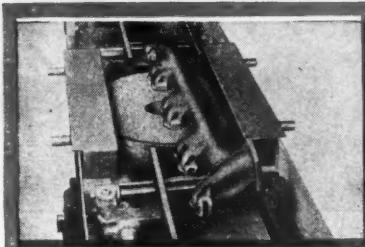
**HEAVY DUTY DISC TYPE  
WET SURFACE GRINDER  
FOR CYLINDER HEADS  
BLOCKS AND MANIFOLDS**

Everytime you rebuild or overhaul a motor, check the cylinder head with a straight edge. You'll find 9 out of 10 warped enough to cause compression and/or water leaks. They're easy to regrind absolutely straight on the Lempco Wet Surface Grinder. Equally easy to service blocks, manifolds, fuel pumps and hundreds of other surface grinding jobs. Pays for itself in no time.

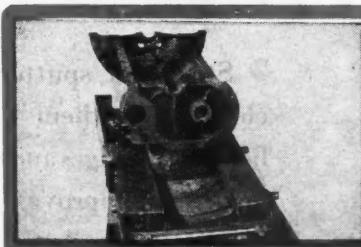
WRITE FOR CATALOG

**LEMPCO**

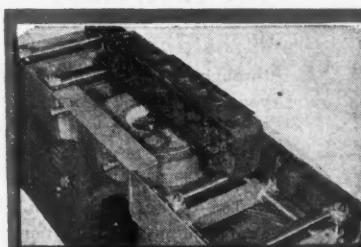
5727 DUNHAM ROAD  
BEDFORD, OHIO, U.S.A.



187 SQ. INCH WHEEL



GRINDS WET OR DRY



GUIDE ROLLERS

In reference to the trouble you are having with the 1941 Ford truck motor installed in the 1942 Ford chassis, I would guess that the trouble is due entirely to the distributor which you installed on this 1941 engine. From your description I take it that you have installed the 1942 distributor on the 1941 engine. It is entirely possible that the advance curve characteristics of the 1942 distributor are different from those designed for use on the 1941 engine and this would probably account for the poor performance you are getting.

## Gas Evaporation

I have been a subscriber to MOTOR AGE for 22 years and have got lots of good out of it, but now I have some real trouble. I have a 1937 Buick 40 Eight. The gas disappears in the carburetor when the car sits for two or three days. It just has enough in to make a few chugs then it must pick it up from the tank. I have put on new carburetors. Pump valves are good. Car runs good after starting. I have tried everything I know and also what I can find out from others but "no soap." I know of others that have had the same trouble. See if you can help me out on this one.—Ben R. Bittmann, Green Valley, Wis.

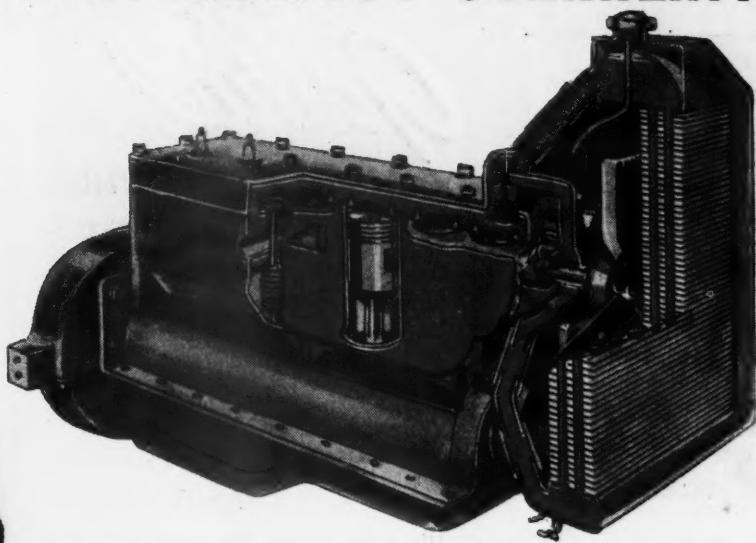
(Continued on page 50)



"Have you any friends that would buy some oil? The boss is going to buy me a cowboy suit as soon as I sell 20 more gallons."



## WHIZ RADIATOR SPECIALTIES GUARD AGAINST OVERHEATING!



BUY MORE BONDS

Keeping a motor operating efficiently during these hot summer days demands trouble-free operation of the cooling-system! And trouble-free operation of the cooling-system demands *complete* servicing of radiator and water jacket when engine temperature exceeds normal—removal of rust, scale, and sludge . . . preventing formation of new deposits . . . sealing all leaks. WHIZ Radiator Specialties make this *complete* cooling-system service easy!

Check your stock now, and place your order for WHIZ KLEEN-FLUSH, WHIZ COMMANDO RUST PREVENTIVE, and WHIZ INSTANT SEALER so you'll have enough on hand to meet the demand for these fast-selling WHIZ items. *R. M. Hollingshead Corporation, Camden, New Jersey; Toronto, Canada.*



MANUFACTURER OF FLOOR WAXES • POLISHES • DISINFECTANTS • INSECTICIDES • CLEANERS  
SOAPS • HYDRAULIC FLUIDS • RUST PREVENTIVES • RADIATOR SPECIALTIES • SPECIAL PURPOSE OILS

## Clearing House

(Continued from page 48).

We have had several cases similar to the trouble you are having with the 1937 Buick, Series 40, come to our attention recently. We have diagnosed this trouble in several different ways and have had several subscribers write in telling us how they have finally cured the trouble. In each case they have coated the inside of the carburetor float bowl with

heavy lacquer and also the outside of the float bowl with the same material. This apparently corrects any porosity in the metal of the float bowl casting, and prevents drainage and evaporation of the gasoline.

reversed polarity cause the voltage regulator to burn out and in turn cause the armature in the generator to heat up and burn out?—An Illinois Subscriber.

### Reversed Polarity

Will you please help us settle a question? If the battery is installed in a 1939 Ford in reversed polarity and the car is run for approximately 200 miles in two weeks time, will this

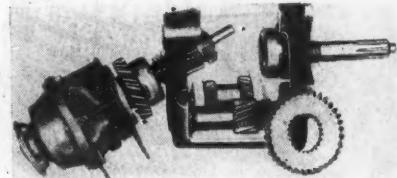
ON the old type three-brush generator, to install a battery with the terminals reversed would cause no damage to any of the electrical units. The only result would be that the ammeter on the instrument board would be indicating discharge when the battery was actually being charged. However, when the electrical system is equipped with a voltage regulator, it will cause the regulator points to burn out and quite possibly the generator would also be damaged.

### Noise in Neutral

I have a Buick in our shop which I am having a lot of trouble with.

I am having trouble with the transmission. It is very noisy in neutral. In first, second and third it is very quiet.

I have taken it apart twice, and have inspected every gear and bearing in the transmission. I have put in main drive gear, and synchronizing drums, clutch sleeve and thrust washer on the idler gear because one thrust washer was all hammered and bent as the lock pin wasn't driven in far enough.



This car came into the shop first for a clutch job and after we put it together a week later it started to slip out of high, due to a snap ring popping out of place on the clutch housing. This snap ring acts as a thrust washer—it's supposed to hold the main drive gear in place when the transmission is up against the housing.

This Buick is a 1941, Series 41. I would appreciate it very much if you can give me information on this automobile.—Joseph Zitola, 6 Palm Place, Brockton 52, Mass.

• "Care free" describes the dealer who installs new Gabriels . . . care free, because of a positive assurance of the end of all the troubles that "Gabriels" are engineered to cure—erratic steering, wheel hop, curve sway, brake dive, spring breakage and abnormal tire wear—all adding up to complete customer satisfaction.

Gabriel plays a big part in extending the working life of present cars—and in the new era of the new cars just ahead, look to Gabriel to lead the way in safety, comfort and efficiency on the highways . . . on passenger cars, trucks and busses.

Gabriel dealers are successful dealers—because they've got what it takes.

Write or wire today for particulars.



YOU have certainly done pretty nearly everything possible to that 1941 Buick transmission you are having trouble with. The only thing you didn't mention in your letter is checking the alignment between the transmission case and the flywheel housing. Improper alignment between these two cases could cause the noise you are experiencing.

I would suggest you loosen the (Continued on page 76)

# Get More Valve Job Profits

with a  
**Black & Decker**  
**Electric**  
**Valve Shop**



#### The Best Equipped Shops Get the Business

... and here's the equipment that brings bigger volume and better profits on valve reconditioning. The appearance of the Black & Decker Valve Shop helps you get more valve jobs. Its *precision* assures better work. Its *speed* gets the work done faster. So you make more money.

The Electric Valve Shop rolls right up to the job with a Black & Decker Super-Service Valve Refacer (for wet or dry grinding) and with full equipment for "VIBRO-CENTRIC" Valve Seat Grinding—the fastest, most accurate method known. You have a choice of 12 combinations of equipment, to suit everything from popular cars and light trucks to heavy tractors, trucks and Diesels.

For a free copy of our illustrated handbook, "The Principles of Valve Reconditioning," write to: The Black & Decker Mfg. Co., 627 Pennsylvania Ave., Towson 4, Maryland. For help on any tooling problem, see your nearby Black & Decker Distributor.

LEADING DISTRIBUTORS

EVERYWHERE SELL

**Black & Decker**  
PORTABLE ELECTRIC TOOLS

## Advertising Sells

(Continued from page 42)

have new, aggressive competition from younger men leaving the Armed Services who will open their own places. These men will be adaptable, quick and alert, and many will be full of new ideas on service that the public will appreciate. You will have to be on your toes to compete.

The outstanding thing about your business may be yourself. If you are well-known, advertise yourself. Don't

be afraid to use your picture. You can't be too modest in advertising. Or if you are not well-known, make yourself so through your advertising. The public likes to know the head of a company it does business with.

Maybe you will want to hang your advertising slogan or idea on a promise—the promise of perfect service, guaranteed by you. Maybe it might be that you personally look over each repair job before it goes out. The public would like that.

Maybe it's courtesy you want to stress—service with a smile. Possibly

it is the ability of your service men—the thorough job they do. You could even advertise fair, fixed prices established by the Chilton Flat Rate Manual. A lot of customers like to feel everyone is quoted the same price for the same job, with no inside arrangements to some, and charges too big to others. Maybe it's the atmosphere of your place—it's friendliness, understanding, cooperation. These are some of the human qualities that nearly always make a hit in advertising. You could run the pictures of your service men—one to each newspaper advertisement, or letter, and write about them in a way that would interest customers who know them, and attract customers who don't. The barber had a good idea who placed a placard with each man's name on it above each barber chair. That gave his men personality, some distinction, and in turn gave him some also for doing that.

Get not only your customers better acquainted with your shop, but get one whole community familiar with your establishment. Take the trouble to tell people how they can reduce car expense, and compliment those car owners who take good care of new cars. Give snappy service. Make deliveries on time. Be especially careful in estimating and rendering service bills. If you are a car dealer explain finance charges thoroughly. *Do things not now being done by your competitors.*

Maybe you will have new equipment and will want to play it up in your advertising. Fine! Make the equipment manufacturers help you. They have advertising men whose ideas you can use. Get them to dramatize each piece of equipment with signs or other methods so your cus-

(Continued on page 54)

**This is IT!**  
...for repairing leaky radiators

**Radiator SEAL**  
THE GUARANTEED WEINCO  
FOR REPAIRING LEAKY RADIATORS  
FOR PREVENTING RUST  
KERKLING & COMPANY  
BLOOMINGTON, INDIANA, U.S.A.

RETAILS FOR  
**\$1.00**  
AND WORTH IT!

You can count on it . . . either K & W Radiator Seal will stop that radiator leak in 30 minutes or you'll know that NO SEAL can, but, that it is a job for a competent radiator shop. K & W requires no labor . . . just pour in radiator.

Discourages rust and scale, does not affect hoses or thermostats. Order the special K & W "63" Deal, which offers even larger profit than usual. Your jobber can supply you now. Kerkling & Company, Bloomington, Indiana.

Remember . . . if K & W can't fix it, NO SEAL can!

**K&W**  
**Metallic Seal**

**K&W**  
**Mechanical Method**

Two guaranteed means of repairing virtually every type of engine heat, freeze or stress crack. Ask your jobber about them.



"As part of our reconversion plans, we'll start being courteous to 'A' card holders!"



**TO PRESENT NUGGET OWNERS:** If you have lost any of your NUGGET Wrenches, see your Blackhawk Jobber. He will arrange delivery of the replacements. Blackhawk wishes to protect the investment of present owners, even though Nuggets cannot be made and sold on a mass scale to new buyers until after the war.

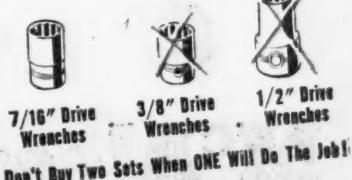


YOU know, of course, that many of the handle types, socket sizes, and attachments are duplicated in the  $\frac{1}{2}$ " and  $\frac{3}{8}$ " drives. This is costly and inconvenient for mechanics who today must buy both  $\frac{1}{2}$ " and  $\frac{3}{8}$ " wrenches to do the complete range of work required. But—the return of Blackhawk NUGGET Socket Wrenches in early postwar will abolish this unnecessary duplication of wrenches and expense. Why? Because NUGGET handles, sockets, and attachments in the  $\frac{7}{16}$ " double-duty drive do all the work of both  $\frac{1}{2}$ " and  $\frac{3}{8}$ " drives. That means a saving on original cost and continuous savings on replacements.

Blackhawk won its reputation with the high quality of its wrench line, including  $\frac{3}{8}$ " and  $\frac{1}{2}$ " drives. Consequently, we judge this future development in the light of past and present wrench design. We urge you to wait for Double-Duty NUGGETS.

**A Product of BLACKHAWK MFG. CO., Dept. W685, Milwaukee 1, Wisconsin**

**BLACKHAWK** → **NUGGET** ← **SOCKET WRENCHES**



## Advertising Sells

(Continued from page 52)

tomers can understand what each piece of equipment does. If you do that you can become known as the best-equipped shop in town.

The main thing is to go to work to establish a reputation for yourself, and since you can't be the best in everything, set out to advertise yourself as the best in some one particular respect. Make sure you either are that or you will be sure to be. Drive that distinctive something about

you, your employees, your equipment, your building, your courtesy, your service—home to the public. Never get off that track. Keep driving home that one point over and over, without pause and let-up.

That is the reason for the underlying success of every great national advertiser. It is also true of local advertisers. They have one outstanding characteristic they have developed through advertising that stands them out for attention. Find such a peg to hang your advertising hat on, and you're made.

There has been a lot of agitation

in Washington for grade-labeling, which the scientific-distribution boys think would kill off advertising. Even if grade-labeling should come, the public will still respond to advertising. Americans like to buy that way. They enjoy choosing for themselves what they want. They like to confer their friendship and business on products and merchants who have sold them. There would be no fun in buying on the deadly monotonous level of Government grading. The public want to do their own grading and discriminating. Any merchant, like yourself, who will win their interest through its advertising, will get their business, and if you live up to your advertising, you will earn their lasting regard.

There is no magic in successfully advertising a business. The formula is simple. Conduct your business so it is worthy of the respect of your neighbors and friends. Tell the story of your service to them. And never stop telling them.

If you will follow these precepts you can't fail. You will find that thinking about your advertising will soon become as automatic with you as the way you now think about other departments of your business. You will enjoy creating ideas and new forms of advertising for yourself, and you will find that the time and attention you give to your advertising will be the best investment you have ever made.

## New Gear Pullers

Snap-on Tools Corp. has announced a new series of matched gear pullers which provides the proper tools to cover a wide range of pulling utility.

The series includes three sizes of standard pullers with maximum jaw capacities of  $4\frac{1}{2}$  in.,  $8\frac{1}{2}$  in. and 14 in. In addition the small and medium sizes are also available in the slide-hammer design . . . or they can be furnished with all parts necessary for use as either standard or booster hammer pullers, providing adaptability of the puller to the characteristics of each pulling job.

The yoke and jaw construction is identical on all models with a powerful, spring controlled jaw lock designed to give a safe, slip-proof, and tip-proof grip on the part to be pulled.

The hexagon and on the standard model pressure screws can be turned with standard wrenches. The two smaller sizes take a  $\frac{3}{8}$  in. wrench—the large model a 1 in. wrench.

On the slide hammer type pullers, it is claimed, the centralized, guided shock of the booster hammer, combined with the screw tension, provides a pulling force unequalled by any other method, and distributes the pull equally.

For further information, write Snap-on Tools Corp., Kenosha, Wis.

**Chalk Up MORE SALES**

**with McAlleer's COMPLETE FINISHING LINE!**

McAlleer's Quick-Cleaner  
McAlleer's Quick-Wax  
McAlleer's Speedie Rub  
McAlleer's Polishing Cream  
McAlleer's Top Dressing  
McAlleer's Liquid Cleaner  
McAlleer's Metal Polish  
McAlleer's Bright Polish  
McAlleer's Black Polish

MEMBER  
M.E.M.A.  
MOTOR & EQUIPMENT MANUFACTURERS ASSOCIATION

**McAlleer**  
MANUFACTURING CO.

QUALITY-CONTROLLED  
Automotive - Household - Industrial  
FINISHING MATERIALS

ROCHESTER, MICHIGAN



## Safety after dark

Looking back in the Gay Nineties wasn't too much of a problem. Most drivers sat up high where they could see in any direction, and slow-moving traffic was less of a hazard. Today, it's different. What goes on behind is an important safety-factor.

The new, Arrow, all-purpose Mirror is the practical answer to today's problem. Designed

with a combination bracket, it can be mounted on any door-hinge from 2" to 3" in size, or on the body itself. Complete with hinge-pin, set-screws, and telescopic shaft, it is ready for use on practically any type vehicle. No special attachments necessary. Two models. See your jobber or write direct. Arrow Safety Device Company, Mount Holly, New Jersey.

FOR SAFETY

# ARROW

AFTER DARK



## Super Service

(Continued from page 28)

1. *Location.* Their shop is advantageously located in the 2200 block on East New York Street, one of the main traffic lanes from East Indianapolis to the downtown business district. Besides, the location is accessible to hundreds of neighborhood car-owning families who need automotive supplies of all kinds, and service.

2. *Easy Access to Services.* This is highly important, Mr. Cossey explained, as motorists want safe access when turning out of the traffic lines

for gasoline, oil, repairs or supplies. As the illustration shows, there are two drive-in entrances into the repair shop facing New York Street at right of gasoline pumps, while two exists afford safe egress facing North Beville Ave. Motorists going downtown can stop safely for gasoline by making a left hand turn at Beville Avenue, then turn right on the large paved space in front of main building. East bound traffic obviously has easy access to the drive-in.

3. *Shop Equipment.* Plenty of good tools and labor-saving equipment help to build customer confidence and good will, so necessary to hold repeat busi-

ness. Modern lubrication equipment is employed to handle complete lube jobs. And even during the war-time restrictions, the average number of lube jobs is 10 cars a day. The modern pumps outside dispense the nationally advertised brands of gasoline.

In the shop are motor and electric analyzers. There is complete battery recharging equipment. Good money is made on rental service, the management said. They also handle new batteries and electrical products.

4. *Change Operating Policies to Fit Changing Conditions.* For example, when the War started, Cossey had 7 mechanics working in the shop. He had been doing a big business on front end work. But the war took every one of his mechanics, including his own son Rollin J. Jr., now in the Navy, and Mrs. Cossey's brother, J. J. Regan, now in Pacific service. With this handicap, the profitable front end service had to be closed for the duration. It will be renewed when the war ends and all the boys come back.

Incidentally, Rollin Jr. and Brother Regan, as well as the others are keen to return to the old job, where profitable employment will be waiting for them. Mr. Cossey went on to say that almost single handed, they began to specialize on brake service, motor tune ups, greasing, head-light adjusting and balancing wheels. Both factors add safety to driving and conserve tires. He plans to add glass and radiator service in the shop post war.

5. *Advertising.* As Mrs. Cossey expressed it, your service is your best advertisement. Stand back of the work. It pays. If not right, make it right. One customer tells others, and that way you build up your new business—hold the old.

However, she keeps records of all brake jobs done, also lubrication service, then she notifies customers who do not appear at the proper time for renewal of brake inspections and for

(Continued on page 64)



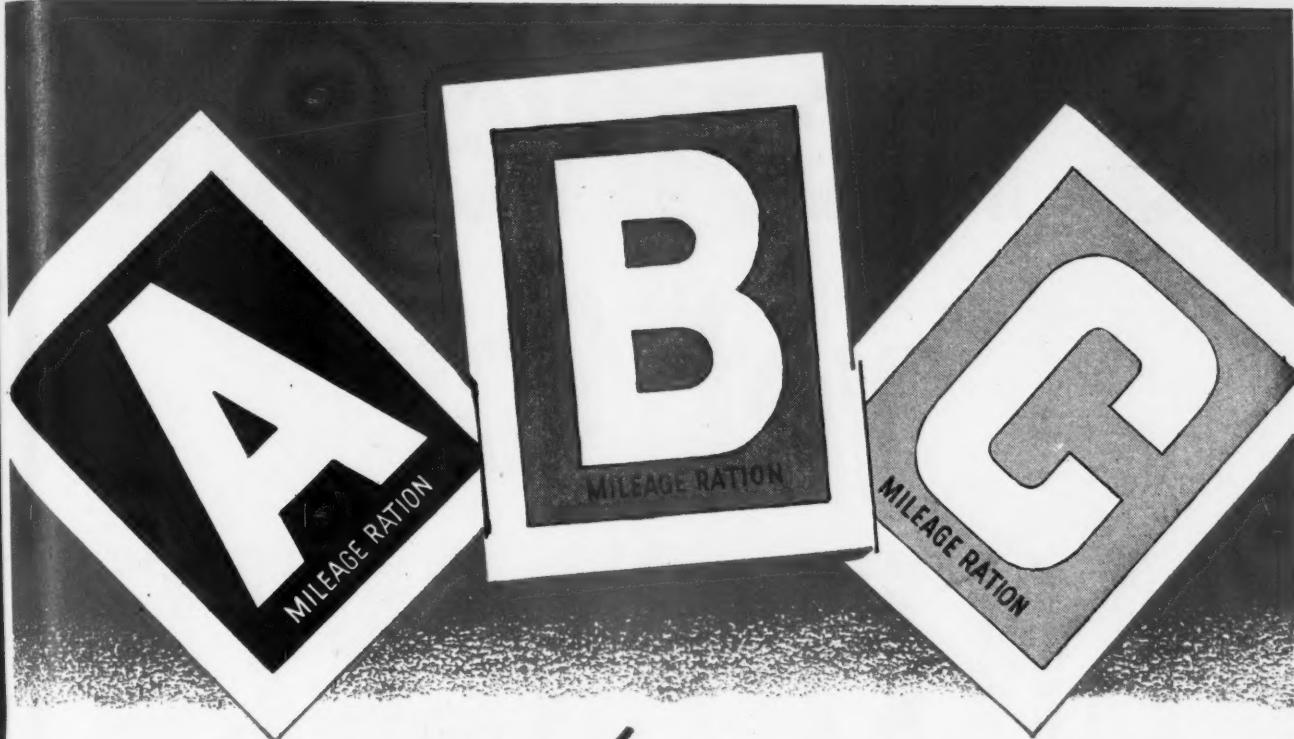
Leave the lariat and lasso to Skid. Rope in profitable brake business by using GRAFIELD and barring bronco-bustin' stops. GRAFIELD brakes safely and gently, giving thoroughbred performance with the faithfulness of an old gray mare. Get in line—reline with GRAFIELD.

WORLD BESTOS CORP.

PATERSON • NEW JERSEY



"Oh, that's alright to read the funnies, Hugo. For a second I thought it was the help wanted section!"

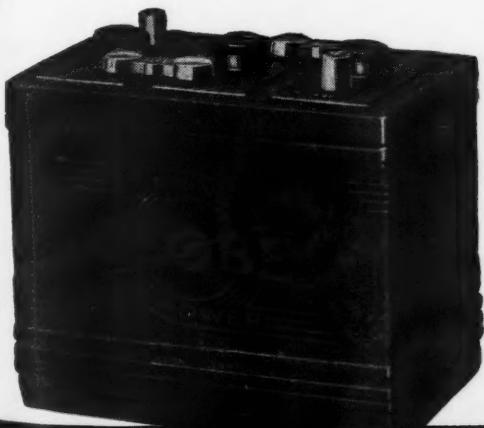


## Rationed Driving

### Makes Regular Check-Ups Necessary



**Companion Products**  
Globe Full-Spark Plugs, like Globe Batteries are built to meet the extra demands of replacement service.



CHECKING batteries and cleaning and adjusting spark plugs have always been important services. Under the limitations of wartime driving, they are essential to making batteries last longer and to getting the best possible power and mileage from present fuel rations.

So be sure to examine the battery of every car that comes into your station. It is not only a patriotic service, but it's also good business. Your customers appreciate this expert help. They'll respond with what business they have now, and a lot more when peacetime driving returns.

When replacement is necessary, there's extra protection in Globe Spinning Power, the battery that's built for wartime replacement service.

**GLOBE-UNION INC., Milwaukee 1, Wisconsin**

Atlanta • Boston • Cincinnati • Dallas • Kansas City  
Los Angeles • Memphis • Minneapolis • Philadelphia • Seattle



MA-845

# GLOBE

*Spinning Power*  
**BATTERIES**

# No "reconversion" yet for ANTI-FREEZE

**V-E Day has produced no changes in WPB allocations  
for anti-freeze this winter**

ACCORDING to the WPB's latest statement, no standard-quality methanol will be made available for anti-freeze production for the coming season. And even though the WPB has issued no general news release on the glycol situation, it is very *unlikely* that there can be any additional glycol for the '45-'46 season.

This is not surprising news. The war needs for methanol and ethylene glycol have not let up. Millions of gallons of methanol made by Du Pont must continue to go into the manufacture of hundreds of wartime prod-

ucts. And millions of gallons of ethylene glycol are still needed for liquid-cooled aircraft motors, tanks, bulldozers, jeeps, etc.

Therefore, there will be no regular "Zerone" (Type S). In its place Du Pont is supplying War Emergency "Zerone" (Type N). In addition, "Zerex" (Type P)—Du Pont's non-evaporating anti-freeze—is available in limited quantities.

#### **Regarding Shipments**

To avoid conflict with the heavy movements of men and material for the Pacific War,

WAR EMERGENCY  
**DU PONT "ZERONE" and**

Du Pont is making shipments of anti-freeze to western and northern areas earlier than usual. Because jobbers in those areas can now deliver such anti-freeze, some dealers may think supplies are abundant and therefore there is no need to stock early.

That is not so. The situation simply means that anti-freeze is available in certain areas

ahead of others. It should be remembered that, because the supply is restricted, distribution must still be governed by the WPB plan of allocation by states.

Please keep these facts in mind when ordering from your "Zerone"- "Zerex" jobber. It will help him administer his supply of anti-freeze in your best interest as well as his own.

## TAKE DELIVERY EARLY THIS YEAR

The strain on transportation may get worse in the fall, and shipments of non-military products may be delayed. It's advisable, therefore, to take deliveries as early as your wholesaler can supply you.

### Here are 2 Du Pont Brands for You

**WAR EMERGENCY "ZERONE"\*\*** Type N (ethanol) at \$1.40 a gallon retail, OPA ceiling price. In 54-gallon and 5-gallon drums.

**"ZEREX"\*\*** Type P (ethylene glycol) at \$2.65 a gallon retail, in one-gallon metal containers, packed six to the carton.

\*TRADE-MARK



*BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY*

**YOUR CUSTOMERS WILL WANT**

**DU PONT ANTI-FREEZE**

REG. U. S. PAT. OFF.

# "ZEREX" anti-freeze

## Technical Center

(Continued from page 46)

"Facilities are only a part of the story of the Technical Center conception," said Charles F. Kettering, vice president and director of research. "The more important factor has not been overlooked—the men to use these new facilities—the men who can make ideas grow into material things."

As revealed in a series of color slides shown by W. J. Davidson, GM

executive engineer, and in a model of the new Technical Center, which was unveiled at the close of the meeting the entire Center is so designed that several buildings can be added as the need arises.

Some novel steps also are to be taken in the construction of the Center. The layout of the grounds and buildings calls for a terrace on which the buildings will be set to provide ground-level drive-ins. Necessary fill to create the terrace will be obtained by excavating from the site

itself, thus creating the central lake which will provide water for cooling in the various buildings as well as adding to the architectural beauty of the Center.

The administration building will have a frontage of approximately 1,000 feet, will provide ample space for exhibiting General Motors products and will incorporate an auditorium with a seating capacity for 1,200 persons. The auditorium will be available to all divisions of the corporation for all types of meetings for which its facilities are adaptable. For instance, it may be used for divisional dealer meetings at the time of new model announcements. It will be fully equipped for stage or screen presentations.

## Appointed Executive Vice-President of NADA

Lee Moran, Sales director, Office of Surplus Property, Department of Commerce, will become executive vice-president of NADA on August 1, succeeding Ray Chamberlain who resigned last January, according to a recent NADA announcement.

Mr. Moran came to Washington a little over a year ago to head the sale of surplus automotive property program. Previous to the Washington appointment, he had been an auto dealer at Mt. Lebanon, Pa.

## Wiry Joe Cable

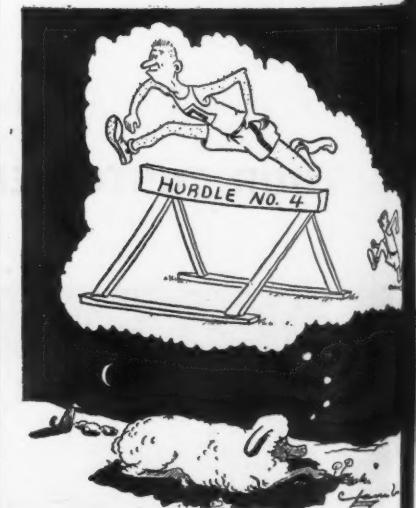
The Crescent Co., Inc., Pawtucket, Rhode Island, recently announced that Wiry Joe synthetic jacketed hi-tension ignition cable (No. 90-01) is available in the new Wiry Joe Spooled Cable Dispensing Box.

According to the announcement, this synthetic rubber jacketed cable is capable of withstanding temperatures up to 300 deg F for 200 hours. It is oilproof, and moisture, abrasion, and corona resistant.



The hard knocks valves, rings and cylinder walls take this summer will spell trouble for many a war-worn, aging motor. Now, more than ever before, as the peak driving season begins, ALL your customers need the protection of MARVEL MYSTERY OIL! It reinforces lubrication and guards those vital upper cylinder areas where summertime lubrication failures start and motor troubles set in. Additionally, it retards the formation of power-killing engine gums and varnish and encourages rings and valves to function smoothly. Oil lines and pump screens benefit by the remarkable gum solvent ability of this super, additive oil. Added to today's low octane gas, it prevents fuel gumming and improves carbon condition.

There's an active demand and assured satisfaction for you in MARVEL MYSTERY OIL. Ask us to show you how it helps to keep motors purring and profits clicking. THE EMEROL MANUFACTURING CO., Inc., 242 W. 69th St., New York 23, N. Y.



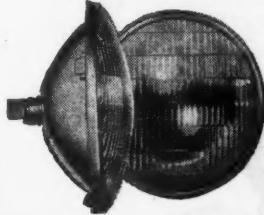
# AUTO-LITE

## SEALED-BEAM UNITS, LENSES FOG AND DRIVING LIGHTS

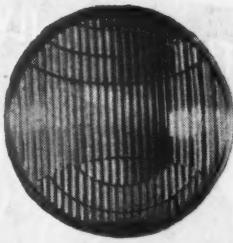


### AUTO-LITE SEALED BEAM HEADLAMP UNITS

Durability is the outstanding feature of Auto-Lite Sealed Beam Units. Separate bulb construction keeps the light functioning even when the lens is cracked or broken. Securely sealed, accurately prefocused, they are available for replacement on '40, '41 and '42 cars and trucks.



### AUTO-LITE ORIGINAL EQUIPMENT LENSES



Legal throughout the United States and Canada, Auto-Lite original equipment lenses are available for replacement on 127 types of cars, trucks and buses. Lenses and headlamps are both marked with trade name under which they are officially approved by Highway Departments.

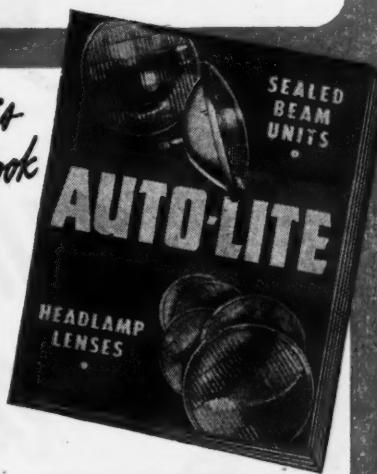
### AUTO-LITE FOG AND DRIVING LIGHTS

As soon as materials are released, Auto-Lite Fog and Driving Lights will again be manufactured. These lights, noted for the contribution they make to highway safety, come complete with wiring, switches and brackets for easy mounting.



*Send for this  
FREE service book*

It tells you how to remove and replace sealed beam units; shows original equipment lenses for 127 types of cars and trucks. Send for your copy today.



THE ELECTRIC AUTO-LITE COMPANY  
TOLEDO, 1      Merchandising Division      OHIO

TUNE IN "EVERYTHING FOR THE BOYS" STARRING DICK HAYMES—EVERY TUESDAY NIGHT—NBC NETWORK

AUGUST, 1945

When writing to advertisers please mention Motor Age

# Problem:

Motorists want this much "PRESTONE" Anti-Freeze!



BUT THERE'S ONLY THIS MUCH!



Where does That  
leave you?

Let's Get  
the Jap—  
and Get  
it Over!



# Answer:

Probably you *won't* be able to supply all of your customers with "Prestone" anti-freeze this winter.

But we're doing everything possible to make sure *they don't think it's your fault!*

All national advertising for "Prestone" anti-freeze will emphasize the fact that *there just won't be enough to go around.*

It will make motorists aware of the tremendous military needs for one-shot protection . . . so they'll understand the reasons why you can't give them what they ask for.

And if you *can* give your customers "Prestone" anti-freeze—they'll be doubly grateful to you! For "Prestone" anti-freeze won't evaporate, boil away, or foam off . . . protects against rust and corrosion. *One shot lasts all winter.*

## The following is included in each "Prestone" anti-freeze consumer ad:

"To assure anti-freeze protection of the nation's motor vehicles, the War Production Board, with the cooperation of the Anti-Freeze Industry Advisory Committee, set up a state allocation plan for the distribution of



*all* anti-freezes. This plan is intended to assure motorists of some kind of anti-freeze protection. Some 'Prestone' brand anti-freeze will be available in all communities."

The registered trade-marks "Eveready" and "Prestone" distinguish products of National Carbon Company, Inc.

### NATIONAL CARBON COMPANY, INC.

*Unit of Union Carbide and Carbon Corporation*



#### General Offices

30 East 42nd Street, New York 17, N. Y.

Division Sales Offices: Atlanta, Chicago, Dallas, Kansas City, New York, Pittsburgh, San Francisco



# PRESTONE

TRADE-MARK

## ANTI-FREEZE

### YOU'RE SAFE-AND YOU KNOW IT!

## Super Service

(Continued from page 56)

lubrication service. Notification is by postal card or personal telephone calls. The cost is negligible. The pay is good because it keeps a steady flow of some 300 lubrication jobs coming in monthly, and helps considerably to keep brake service customers very much alive.

6. *Diversification.* In addition to complete automotive service rendered

in normal times, many important replacement parts and car maintenance units are carried in stock for immediate sale. Chiefly, these items comprise mufflers, tail pieces (exhaust pipes) fan belts, spark plugs, repair kits, and miscellaneous supplies. Other large selling items comprise new batteries, new tires, lubricating oils and anti-freeze. A big fall and winter business is handled with anti-freeze.

The company has built up a big business on gasoline car heaters, having sold large quantities before the

war. Now a profitable service on them is being accomplished, including complete overhauling. They carry all parts as an authorized dealer. The Cossey shop inspects tires carefully when cars are on the lubrication stand and recommend recaps for casings when worn smooth. This work is farmed out, and a fair profit is earned. Down-town tire repair shops afford good service, and pay reasonable commissions. New tires also are sold to steady customers who hold new tire certificates. The best time to develop merchandise sales Mr. Cossey states is when the car is on the lubrication stand. The car owner is then receptive to suggestions covering his replacement needs.

In summary, motor tune-ups and brake service comprise the leading factors to keep cars rolling when you are handicapped by the war-time labor shortage. Other supplementary services which can be turned to profit are gasoline car heater repairs, battery service, sale of hose connections, fan belts, mufflers, exhaust pipes, tires, new batteries, necessities. These keep the profits alive.

Steady growth and progress of the neighborhood service shop are the assured rewards of courtesy, guaranteed service in a well equipped service organization.

## Named Sales Promotion Manager

Lou Staff, President of Petroleum Solvents Corp., makers of Silo and Loosite sludge solvents has announced the appointment of Harry Lee as Sales Promotion Manager.

Mr. Lee has a record of ten years in the oil business. His most recent connection was Eastern Sales supervisor for the Sinclair Refining Co. He will assume charge of sales promotion and advertising for all divisions.

## Ask your Jobber for LYNN:

- Socket Wrenches
- Screw Drivers
- Ratchets & Speeders
- Flexible Hinge Handles
- Glass Cutters
- Midget Ratchet Sets

LYNN Mechanics Hand Tools are used by the finest auto mechanics in thousands of repair shops, garages and service stations throughout the Country. Good mechanics like them on sight because they are designed right and built right of quality materials for faster, better work.

Available Through Your Jobber

**LYNN PRODUCTS COMPANY, Inc.**  
319 EAST ONTARIO STREET CHICAGO 11, ILL.



"It's a good thing I don't have a driver's license, it would be revoked for this!"

# UNITED STATES SURPLUS PROPERTY



# AUTOMOTIVE TRUCK PARTS

ALL PARTS  
NEW OR  
DISCERNIBLY  
NEW

## SALES ON FIXED DATES IN 9 CENTRAL LOCATIONS

FOR MANUFACTURERS, DISTRIBUTORS, DEALERS  
and SERVICE GARAGES

★ An open invitation is broadcast to recognized manufacturers, jobbers and dealers to buy from the government surplus stocks of automotive parts—all new or discernibly new.

★ Inventories just completed, prompt the release of millions of automotive parts... now put on sale by U. S. Department of Commerce.

★ Due to existing shortage of parts for replacement, these nationwide events spell welcome relief for the whole industry... and opportunities for profitable resale by dealers.

★ Those in need of parts should apply to their dealers or service stations. The necessity of the hour is to maintain vital motor transportation.

STAGGERING  
QUANTITIES &  
ASSORTMENTS

### SCHEDULE OF REGIONAL SALES

PHILADELPHIA	Inspection: Wk. of July 30 Sale: Wk. of Aug. 6 Office of Inquiry: 1126—21st St., N.W., Washington, D.C.
CINCINNATI	Inspection: Wk. of Aug. 13 Sale: Wk. of Aug. 20 Office of Inquiry: 704 Race Street, Cincinnati, Ohio.
CHICAGO	Inspection: Wk. of Sept. 10 Sale: Wk. of Sept. 17 Office of Inquiry: 209 South La Salle Street, Chicago 4, Ill.
ATLANTA	Inspection: Wk. of Aug. 6 Sale: Wk. of Aug. 13 Office of Inquiry: Belle Isle Bldg., Atlanta, Ga.
FORT WORTH	Inspection: Wk. of July 30 Sale: Wk. of Aug. 6 Office of Inquiry: 609 Neil P. Anderson Bldg., Fort Worth, Texas. (Sale at Texarkana, Texas.)
KANSAS CITY	Inspection: Wk. of Aug. 20 Sale: Wk. of Aug. 27 Office of Inquiry: 2605 Walnut Street, Kansas City 8, Mo.
DENVER	Inspection: Wk. of Aug. 6 Sale: Wk. of Aug. 13
SALT LAKE CITY	Inspection: Wk. of Aug. 20 Sale: Wk. of Aug. 27 Office of Inquiry: 1030—15th Street, Denver, Col.
SAN FRANCISCO	Inspection: Wk. of Aug. 20 Sale: Wk. of Aug. 27 Office of Inquiry: 30 Van Ness Avenue, San Francisco, Cal. (Sale at Stockton, Cal.)

INSPECT  
"on the spot"  
BID "on the spot"  
PAY "on the spot"  
SHIP "on the spot"  
  
Quantities are split in  
small and large lots to  
suit the individual needs  
of all types of Buyers.

SALES ARE MADE only through normal channels of trade, in accordance with the objectives of the Surplus Property Act. The description of these parts, the method and conditions of sale, and all other pertinent facts, can be obtained from your nearest Department of Commerce, Office of Surplus Property, Regional Office, at any of the addresses listed above.

WRITE YOUR REGIONAL OFFICE FOR CATALOG

**OFFICE OF SURPLUS PROPERTY—DEPARTMENT OF COMMERCE**

BUY  
WAR BONDS

...so nice to come home to

BUY MORE WAR BONDS

No, the fighting isn't over. Nor is Buick's war work finished.

But victory in Europe is releasing many fighting men to come home — and permitting the country to turn, at least in part, to the making of things they will find nice to come home to.

To many a fighting man, this will mean such pleasures as an open road, a glorious day — and a bright and lively Buick.

The roads are here. The days come with each rising sun. And the bustle that now enlivens Buick's factories is the make-ready process for getting back into the production of cars.

We aim to make those Buicks all that returning warriors have dreamed about — cars that from go-treadle to stop light will fit the stirring pattern of the lively, exciting, forward-moving new world so many millions have fought for.

**BUICK** DIVISION OF **GENERAL MOTORS**

Every Sunday Afternoon—GENERAL MOTORS SYMPHONY OF THE AIR—NBC Network

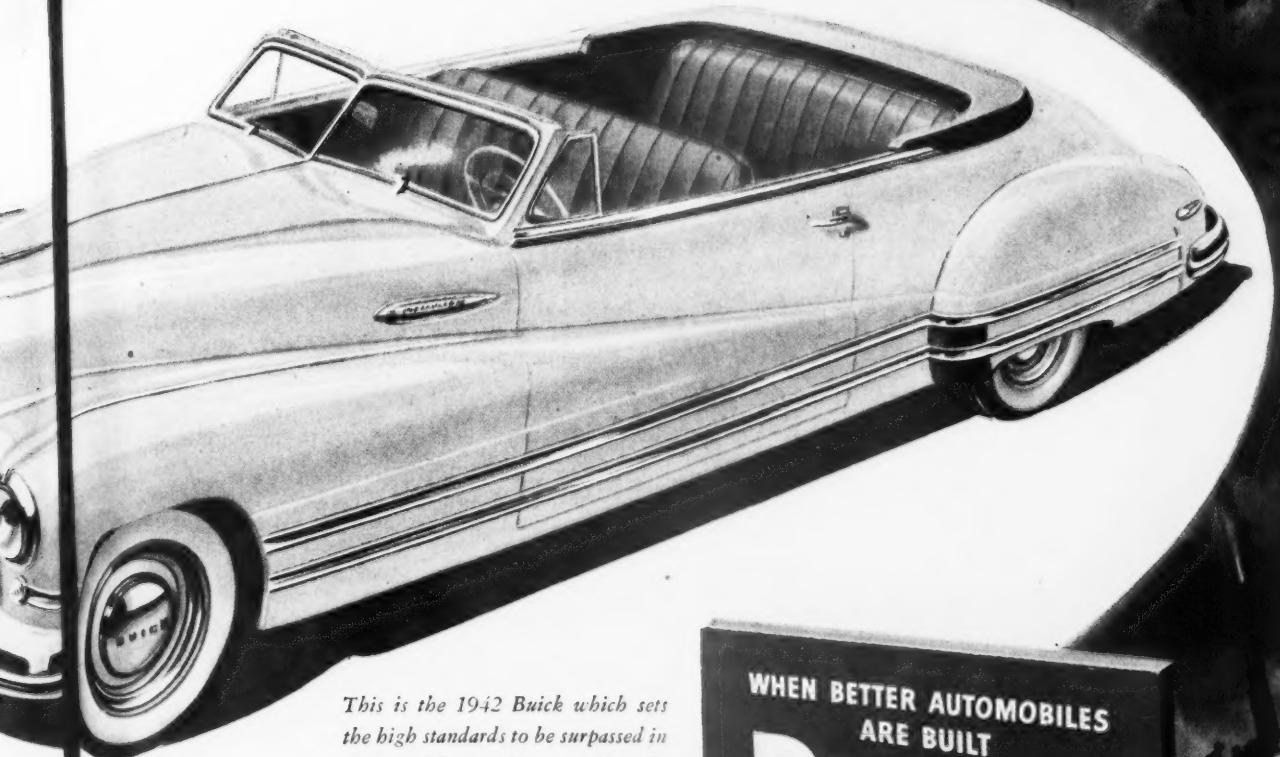
The Army-Navy "E" proudly flies  
over all Buick plants



e to !

 BUY MORE WAR BONDS

BUY STILL MORE  
WAR BONDS

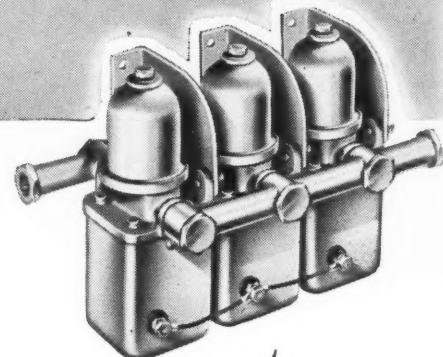
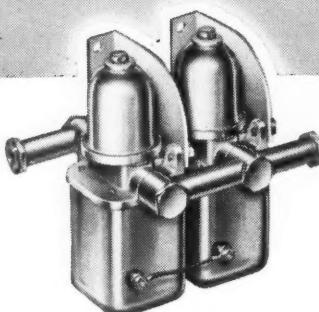


*This is the 1942 Buick which sets  
the high standards to be surpassed in  
new models now being made ready.*

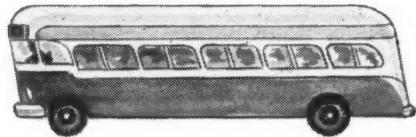
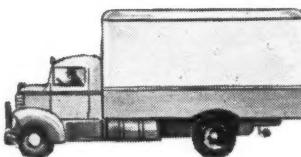
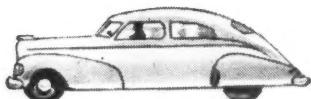


# SIMPLIFY your service problems

## with...AUTOPULSE ELECTRIC FUEL PUMP



## AUTOPULSE



- You can relieve the tension in your service department as far as fuel pump trouble is concerned when you standardize on the Autopulse Electric Fuel Pump. You stock just one model because this pump is equally applicable to all cars, trucks, and buses—in single or multiple units depending on the size of the vehicle. It is easy to install, your men soon learn how to handle it and finish up the job in short order.

The Autopulse is flexible—it may be installed instead of the cam pump, or "in series" with the cam pump as a standby unit, or "in parallel." The Autopulse may be installed anywhere in the fuel line on either side of the vehicle. The direction of flow may be quickly reversed by turning the valves. Autopulse is the universal fuel pump.

Write us direct or through your jobber.

Write us direct for quotation

## AUTOPULSE CORPORATION

2321 Brooklyn Ave., Detroit 1, Michigan

## Kaiser Enters Auto Field

RUMORS which had been circulating for months that Henry J. Kaiser, West Coast industrialist, had been developing a low cost, lightweight car have finally crystallized in a statement just made public.

Formation of a new \$5 million corporation by Henry J. Kaiser, West Coast industrialist and Jos. W. Frazer,

president and chairman of the board of Graham-Paige Motor Corp., marks the initial emergence of the West Coast area as a contender in the post-war automotive field. The new enterprise, to be known as the Kaiser-Frazer Corp., will be owned equally by the Kaiser interests and Graham-Paige Motors Corp.

The car will be known as the "Kaiser." Graham Paige will produce a car in the medium-price bracket, the "Frazer," at its Detroit plant and will turn out the "Frazer" tractor and farm implements at the Warren City, Ohio, subsidiary. Details of the new Kaiser car were not announced other than that it would be a full size vehicle. In an interview with the press, however, Frazer stated that while design details have not yet jelled, the engineering has progressed enough to indicate it "will not be like Ford, Chevrolet or Plymouth." Pressed about rumors that the car would have a rear engine drive, he stated that chances were "about 50-50."

Light metals such as magnesium, will be used in the car to the fullest extent that proves practical, he said, pointing out that Kaiser has tremendous facilities for processing these as well as steel. The price of the car will be under \$1,000, he added, but scoffed at the idea that any car satisfactory to the public would be manufactured for as little as \$500 under present levels of materials and labor. Both the Kaiser and the Frazer will be confined to one chassis design each but will have two or three body styles. Production is not expected to get underway in either line until sometime next spring.

Location on the West Coast, Frazer said, will make possible the utilization of large supplies of raw material and the thousands of machine shops and skilled men which have congregated there during the war. It has not been settled whether the company will make its own parts or buy from suppliers, the determining factor to be which method is cheaper. He was non-committal on the question of where the new enterprise would obtain its car bodies. Long range plans call for possibly three plants on the coast, two

in California and one in the Northwest.

Plans for merchandising the Kaiser have not been worked out, and will be announced later. It is thought likely, however, that the Kaiser and Frazer lines will be sold by the same dealer in most cases.

The Glen L. Martin Co., Baltimore, Md., has designed, installed, and successfully tested equipment for dropping lifeboats from PBM-Mariners. The lifeboat is said to be 18 feet long with a 6-foot beam, fully equipped with radio and inboard motor. Eight parachutes support it as it is dropped.

## New Appointment

The appointment of T. C. Downey, as assistant manufacturing manager for Oldsmobile was announced in Lansing by S. E. Skinner, General Motors vice-president and general manager of Oldsmobile.

Mr. Downey transfers to Oldsmobile's main plant after a service record of 29 years with important divisions of General Motors Corporation. He started his G.M. career with Hyatt Bearing in March, 1916, and was subsequently promoted to the position of assistant production manager for this division in Detroit in 1920.

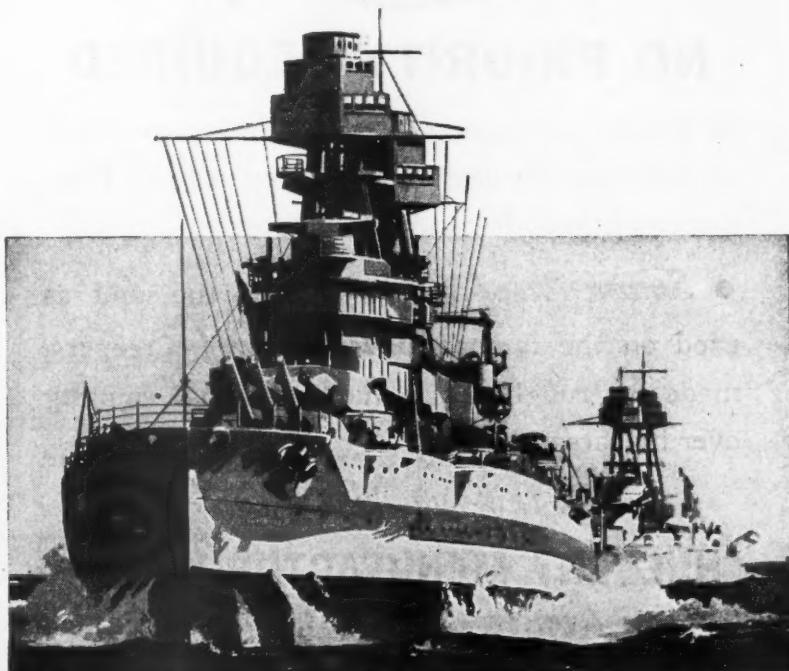
## Automotive Bearings Sail the Seven Seas . . .

• Our two ocean navy is one very good reason why there is such an acute shortage of automotive bearings. Not that the bearings usually made for cars are being used in ships . . . but the same machinery . . . the same skilled help are spending all their time on marine bearings. There can be no diversion until VICTORY is ours. Meantime you can serve your customers and your country by preaching proper maintenance. When peace returns you will be able to buy all the Johnson Bearings you need. And they will be better than ever.

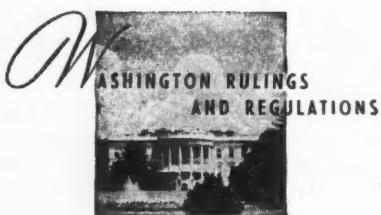
**JOHNSON BRONZE CO.**

*Sleeve Bearing Headquarters*

455 South Mill Street • New Castle, Penna.



## Repair Time Regulation Postponed To September



**E**FFECTIVE date of a proposed new supplementary regulation setting specific limits on the hours of labor that can be charged for on 55 common passenger car repair jobs has been postponed until September 1, 1945, the Office of Price Administration announced.

The regulation, originally announced as becoming effective June 14, 1945, and later postponed until July 14, 1945, is designed to check a practice in some automobile repair

shops of charging customers for more hours of labor than the repairs actually require.

The first postponement of the effective date was requested by representatives of the trade who desired to have further consultations with OPA about the new provisions before they were put into effect.

This latest further postponement, OPA said, is necessary to permit a study of all the information received at these trade conferences, as well as from other sources, relating to the new regulation.

## Methanol Not Available For Anti-freeze Use

**M**ETHANOL will not be available for the production of antifreeze for civilian use this year, the War Production Board emphasized.

WPB explained that reports have been received indicating that many distributors and dealers are refraining from ordering the alcohol type of antifreeze on the possibility that the methanol type will be available.

Delays in ordering could create a shortage in the areas serviced by these distributors and retailers, WPB warned. Dealers and distributors are urgently requested to place their orders immediately and accept delivery of antifreeze as soon as possible, WPB said.

It is expected that if there is no delay in placing orders and accepting deliveries in the very near future, the supply of antifreeze for next winter will be adequate.

To prevent cars being put out of service because of lack of winter protection, antifreeze producers should cooperate by urging dealers to take next winter's supply of antifreeze as soon as possible, WPB said.

## WPB Removes Ban On Maintenance Equipment

**A**LL controls on the production and distribution of automotive maintenance equipment have been removed, the War Production Board announced by amendment of L-270, the order under which the industry operates.

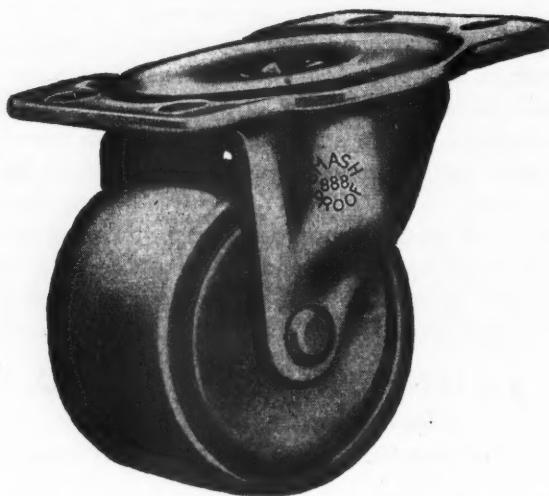
Under the amended order, preference ratings and firm allotments assigned for maintenance equipment may be used only for the production of items on W.P.B. list B. Schedule A items will be produced in the future without priorities assistance which includes such items as alignment gauges, battery chargers, etc.

Utilizing aluminum foil and a film with a plastic base, a new packaging material for the moisture protection of airplane engines and replacement parts for the Army Air Forces has been developed by rubber technicians.

## Smash-Proof

TRADE MARK

## CREEPER 888 CASTERS



## NO PRIORITY REQUIRED

- Keep your creepers in top operating condition by renewing the casters when they need it. Present conditions demand it.
- *Smash-Proof* 888 Casters are the same as used on the famous *Smash-Proof* Creepers, made for rough usage and occasional running over by cars.

*Sold by all leading jobbers*

**HULBERT MANUFACTURING CO.**

6000 State Ave.

Ashtabula, Ohio

# SUPER-TESTED

UNDER CONDITIONS OF  
ACTUAL ENGINE OPERATION



BUY  
MORE  
WAR  
BONDS

Note the massive oversize construction of the BLUE CROWN "HUSKY" . . . No skimping of materials to reduce cost. Parts are HUSKIER, to resist engine vibration, fight wear and tear, take rough handling, last longer.

SUPER-TESTED

# BLUE CROWN

# HUSKY



## Controlled Heat Zone SPARK PLUGS

The photograph reproduced above shows BLUE CROWN'S chief engineer at the dynamometer control panel testing the "Controlled Heat Zone" of a new BLUE CROWN "HUSKY" Spark Plug. The output of the dynamometer electric generator can be varied and accurately controlled to meet any condition of engine operation.

*Sold only through Jobbers*

DOMESTIC SALES  
**BLUE CROWN SPARK PLUG CO.**  
a DIVISION of MOTOR MASTER PRODUCTS CORP.  
1800 WINNEMAC AVENUE, CHICAGO 40, ILLINOIS

EXPORT SALES  
Borg-Warner International Corp.  
CHICAGO 4, ILLINOIS U.S.A.  
Cable Address "BORINTCO"



Keep  
asking

MAY WE  
CHECK YOUR  
BRAKES?



Many Automotive Service Men capitalize on the general neglect of brakes to win business and make friends.

By asking car owners, "May we check your Brakes?" they promote Safety and win new brake service customers.

By standardizing on GATKE Brake Lining they are assured of perform-

ance quality that makes a good brake relining job BETTER—gives long, dependable service and makes lasting friends.

Ask your GATKE Jobber about GATKE CUSTOM-BILT Brake Lining for all requirements of Cars, Trucks, Tractors, Trailers and Buses.

Also ask him about the GATKE System of Personalized Advertising which is available without charge to Automotive Service Stations who use GATKE Brake Lining.

**Gatke** **CUSTOM-BILT** **BRAKE LININGS**  
BLOCKS SETS ROLLS SHEETS  
GATKE CORPORATION 228 N. La Salle  
Chicago 1, Ill.

THE OLDER THEY ARE THE GREATER  
THE NEED  
FOR

**Flare**  
BRAND

THE COMPLETE LINE OF  
CHEMICALS FOR EVERY  
AUTOMOTIVE NEED!

ESTABLISHED 1920  
THE BELL COMPANY, INC.  
411-15 NO. WOLCOTT • CHICAGO 22, ILL.

Stock FLARE! Feature FLARE—for greatest automotive chemical sales success. Thoroughly tested in the laboratory and on the highway... FLARE automotive chemicals are tops in quality. FLARE chemicals are uniformly labeled for better merchandising and stock keeping—one FLARE product sells another! Help keep cars fit to the finish with FLARE. It means extra profits for you!



## More Butyl For Large Tire Tubes

MORE GR-1 (butyl) synthetic rubber is being made available for inner tubes for large tires, W. James Sears, deputy director of the War Production Board's Rubber Bureau, reported.

Butyl makes an inner tube that holds air better than natural rubber, Mr. Sears said.

"Because the production of GR-1 has increased, it is possible to permit its use in inner tubes for all pneumatic industrial equipment and tractors and implements except in the small sizes, 5.50-16, 6.00-16 and 6.50-16," Mr. Sears said. "Tests have proved it to be a most satisfactory rubber for inner tubes and its use will be extended further whenever the supply permits."

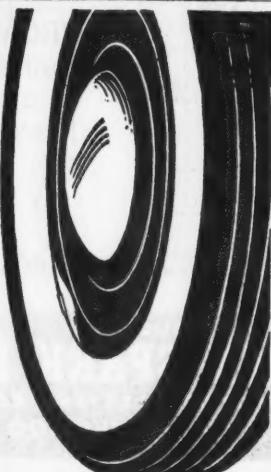
Discovery since 1943 of new oil fields in Mississippi, Alabama and Florida has put the South on edge, and has set crews to drilling throughout the Gulf area and up the eastern seaboard to Virginia, Maryland.

## 31,707 Trucks Released Under Rationing Program

A TOTAL of 31,707 vehicles were released under the truck rationing program during June, 1945, as compared with 29,242 in May, the Automotive Division of the War Production Board announced.

Civilian users received 7,023 light trucks, 13,249 medium trucks, 2,686 heavy trucks and 2,628 trailers, making a total of 25,586. Holders of government exemption permits for Government-use and for exports received 773 light trucks, 3,748 medium trucks, 1,280 heavy trucks and 320 trailers a total of 6,121.

Since the truck rationing program became effective March 9, 1942, a total of 499,954 vehicles of all types has been released. Of these, 375,360 went to civilian users and 124,594 to holders of exemption permits. Of the total 73,578 were light trucks, 293,517 medium trucks, 78,242 heavy trucks and 54,617 trailers.



**SNUGL**

**FAD-A-WAY**  
**AUTOMOTIVE**

**WHEEL BALANCE WEIGHTS**

**TRUCKS • BUSES • PASS. CARS**



**PAT. NO.** D-119-321

D-5189

**FACTORY**

**MID-WESTERN AUTO PARTS**

**KOKOMO INDIANA**

**WEST COAST DISTRIBUTOR**

**910 WEST PICO BLVD.**

**LOS ANGELES 15, CALIF.**

CARS WILL GROW OLDER AND REPAIR BILLS BIGGER

WITH THE TOOLS  
THAT BUILT THEM

for many a

PROFITABLE  
YEAR to COME

*Thor* TOOLS

### Will Help You Meet This Opportunity

Most of today's pre-war cars and trucks, already old, will be three or four years older before they possibly can be completely replaced. This means an ever-increasing volume of repair business for you. No wonder transportation experts consider this problem of civilian automotive maintenance the biggest repair job in history. Highway traffic must be kept rolling until four years, or more, of lost production, can be made up. To handle this flood of maintenance work, repair shops need plenty of modern, speedy, light-weight tools.

### TOOL UP THE THOR WAY... FOR GREATER PROFITS

Now is the time to make your plans... Check your needs. Consider how Thor Tools can simplify your shop work and widen your profit margin. An order placed now assures you of getting Thor specialized automotive tools as soon as they are available. Remember, Thor's complete line of portable electric tools has been job-tested on America's fast-moving production lines. See your Thor jobber—at once.

AN AIR TOOL  
FOR EVERY JOB...

Put the MAGIC power of AIR to work for you with Thor MULTIMATIC AIR TOOLS for shop service. Run tools from compressor as small as 3 h.p. Line includes Drills, Grinders, Polishers and Sanders—7 complete tools in one compact kit.

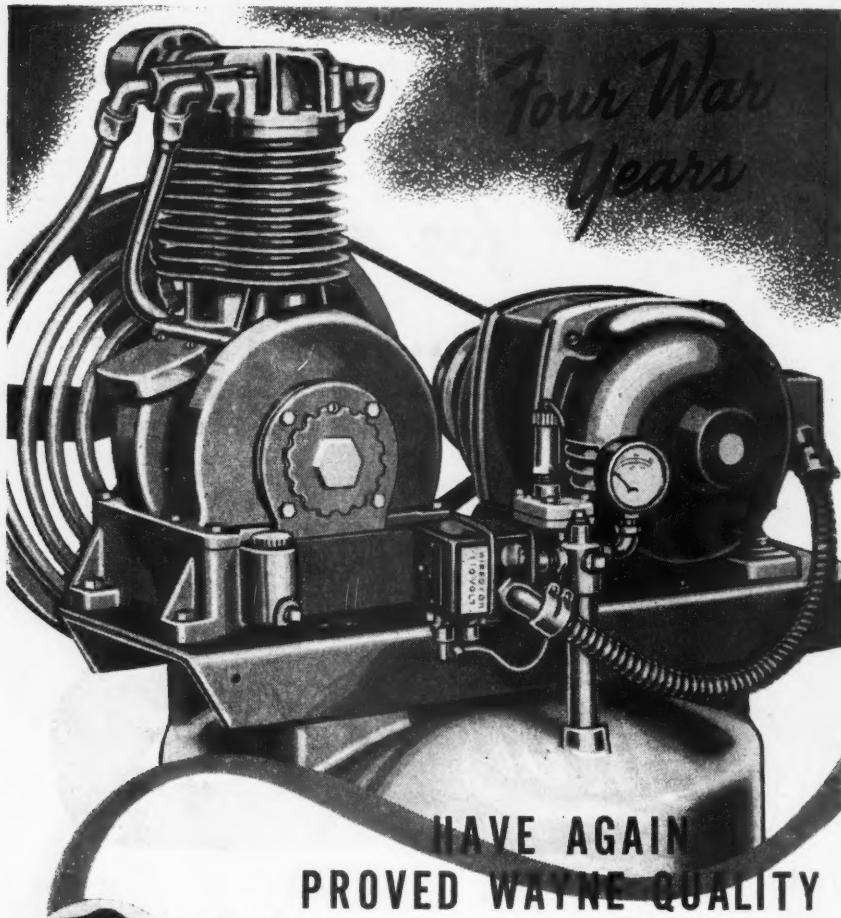
*Thor*

PORTABLE  
Electric  
TOOLS

Branches in Principal Cities

- LIGHTER
- FASTER
- MORE  
POWERFUL

INDEPENDENT PNEUMATIC TOOL COMPANY  
New York 600 W. Jackson Blvd., Chicago 6, Ill. Los Angeles



FOR four long years Wayne Air Compressors have been continuing to serve users all over the nation, efficiently, economically, without interruption. Little service has been needed, but when it has been required, Wayne service men have been on the job quickly. Wayne Compressors are available in a complete range of sizes and capacities from 1/4 H.P. to 10 H.P. Write for a copy of our new and interesting Air Compressor catalog today.

THE WAYNE PUMP COMPANY  
FORT WAYNE 4, INDIANA

**Wayne**  
**AIR COMPRESSORS**

**SAVE PRECIOUS MAN HOURS! SPEED ALL REPAIR WORK!**  
Low Cost . . . Efficient . . . Portable!

**SIEBRING**  
STEAM CLEANER

Cuts GREASE and GRIME In A Hurry!

A big asset in any repair or maintenance shop. Provides instant steam for tough cleaning jobs on grease and dirt packed motors, machines, etc. Saves its low cost quickly in time saved. Easily moved about. Completely automatic. Burns either oil or gas. Service free, simple to operate and safe! Try this remarkable steam cleaner in your plant. You risk nothing. **10 DAYS' FREE TRIAL!** For complete information, write

**SIEBRING MANUFACTURING CO.** 503 MAIN STREET **GEORGE, IOWA**

## AUSCO Jack Announces Post-war Models

Post-war AUSCO Hydraulic Jacks have been announced by Auto Specialties Co. of St. Joseph, Mich. The makers of these floor jacks claim finer performance, easier operation, minimum of servicing attention, increased safety and greatly improved appearance.

The Ausco 2-ton Hydraulic Floor Jack embodies many new features and developments.

The chassis or main frame is a single, solid piece of cast steel eliminating the risk of springing or getting out of shape. The jack is considerably lighter in weight than pre-war models, and has approximately 30 per cent fewer parts. When the jack is down or closed, it offers the appearance of being completely enclosed in a special, streamlined housing. Wheel fenders add to its appearance and also serve to keep dirt out.

The entire piston assembly, including all valves, is easily removable in one unit, it is reported. The simple construction with fewer parts, aids easier servicing.

In addition to the 2-ton Floor Jack Model, there will be a 1½-ton Hydraulic Curb Jack. The Ausco Hydraulic line includes floor jacks of 1½ to 10-ton capacity.

## British Motorists Get New Car Information

The Ministry of Transport, England, has informed applicants of vehicle licenses for new cars that only five makes of new cars will be available at the present time. They are: the Austin Ten, Ford Eight and Ten, Morris Ten, Hillman Ten, and Standard Twelve.

The Ministry of Transport also stated that the English public would be informed of other makes and models available from time to time. The office said that only those persons engaged in "essential work of national interest" could obtain a license for a new car.

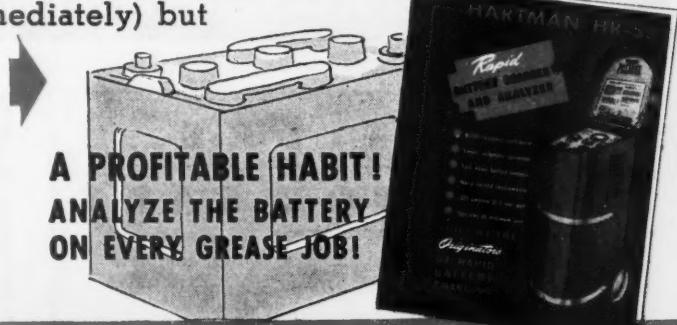
**"IT'S A PROFITABLE HABIT TO ANALYZE  
THE BATTERY ON EVERY GREASE JOB!"**



## **Prolong Battery Life With Your HR-53 BATTERY ANALYZER and CHARGER**

**Obtainable NOW Without Priority**

When a battery is being checked for water on a grease job, only a few additional seconds are needed to completely analyze the battery with a Hartman HR-53. Individual battery cell analysis tells a customer at a glance just which cell is defective... dispels any doubt... creates customer confidence! These few seconds pay big dividends in *EXTRA* battery charges, which are nearly 100% net profit for you... and made *without material or extra labor!* During the summer months batteries sulphate greatly (HR-53 analysis shows this immediately) but your HR-53 quickly remedies this condition... thereby prolonging battery life. Help your customers avoid lay-ups due to battery failure! Write direct for catalog folder; better still, order your Hartman HR-53 from your jobber today for *immediate delivery!*



**HARTMAN**  
CORPORATION OF AMERICA  
6417 Manchester • St. Louis 10, Missouri



**"Built better by KELLOGG-AMERICAN"** is not just a phrase—it's a *reputation*. A reputation for leadership *earned* by over 35 years of experience in air compressor research, design engineering and precision manufacture. Earned by a record of performance in the field that is outstanding.

"Built better by KELLOGG-AMERICAN" means light wafer-type valves, roller wrist pin bearings, positive, controlled, force-feed lubrication and many other KELLOGG-AMERICAN engineered extras. It means smooth, quiet operation. More cubic feet of air per kilowatt hour. Volumetric efficiency is high. Operating costs are low. Compressor life is long and trouble-free. KELLOGG-AMERICAN means *more air per dollar*.

**KELLOGG DIVISION**  
ROCHESTER 9, N.Y. • LOS ANGELES 6, CALIF.  
AIR COMPRESSORS • PAINT SPRAY EQUIPMENT

AMERICAN  
**Brake Shoe**  
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### ARMATURE PLANT FOR SALE

Completely equipped to manufacture a complete line of Automotive replacement armatures, both NEW and Rebuilt. Also commutators, field coils, coils and generator pulley and end bracket castings. Capacity to produce an annual volume of \$500,000. Formerly known to the trade as THE ARMATURE CO.

**H. V. HAHN AND SONS**

7500 Stanton Ave., Phone Henderson 2515, Cleveland, O.

### Clearing House

(Continued from page 50)

transmission case to the flywheel housing slightly and move the case with the engine idling to see if this changes the noise in any way. I believe this should result in entirely eliminating the noise.

### Tyson Bearing Joins Borg-Warner Exports

H. L. Vines, Director of Sales for Tyson Bearing Corporation, Massillon, Ohio, manufacturers of tapered roller bearings, today announced the appointment of Borg-Warner International Corporation, Chicago, as their sales representatives in all export markets with the exception of Canada and Alaska.

Vines pointed out that by joining the other 18 manufacturers whose products are marketed abroad by Borg-Warner International it will mean a considerable saving to the overseas distributors. Shipments from all concerns will be consolidated at Borg-Warner International's Auburn, Indiana warehouse, then forwarded abroad on a single bill of lading.

### New Suction Cleaner

A portable, motorless suction cleaner, designed primarily for cleaning upholstery in automobiles, buses and railroad passenger cars, but adaptable to general air-suction cleaning, will be among post-war products to be manufactured by the McAleer Manufacturing Co., Rochester, Mich.

The cleaner utilizes compressed air from any available compressed air line, a powerful suction being created at the nozzle of the instrument by means of a built-in oscillating valve. The nozzle, made of cast aluminum, weighs two pounds and is affixed to a length of small intake air hose for attachment to compressed air lines, and a length of larger hose, to which a dust-bag is attached.

### INSPECT-CORRECT THE MAREMONT WAY



MAREMONT has what it takes!  
MAREMONT AUTOMOTIVE PRODUCTS, INC. • CHICAGO 8, ILLINOIS

# TURN 'EM **FAST** - **EASY** - **SOLID!**

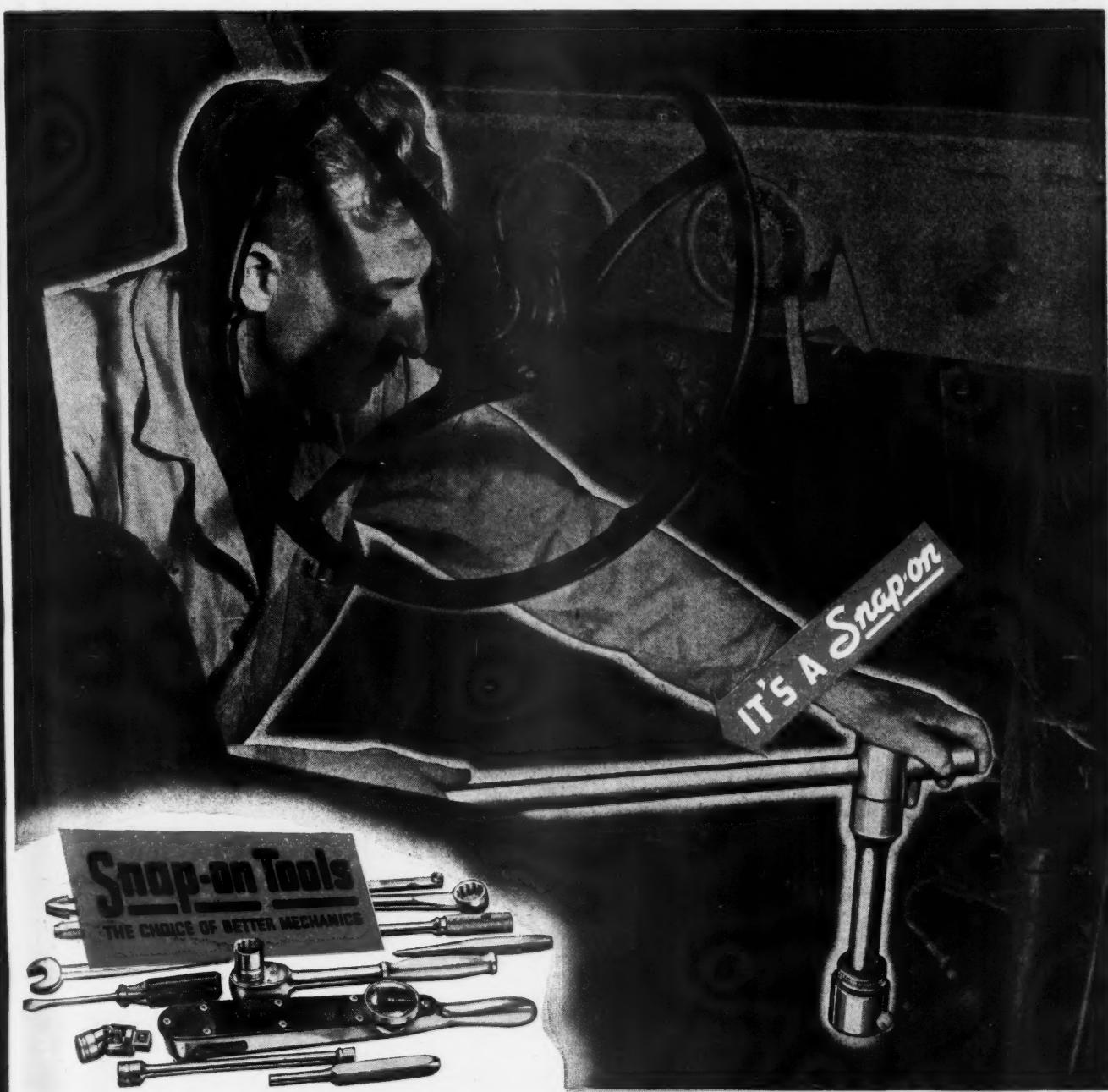
Chalk up the total hours-per-week a service mechanic spends *turning nuts* — and you'll know why Snap-on speed-designed wrenches are the money-makingest tools in any man's kit. ▷ Since its development of the revolutionary interchangeable wrench principle, Snap-on advancements in wrench design have steadily set new standards in wrench speed, adaptability, power, accuracy. ▷ For every service operation there are Snap-on wrenches

to do the job faster and easier—Midgets and Ferrets to Heavy Duty and Jumbo—each with a wide range of ratchets, spinners, speeders and other handles to stretch a moderate wrench investment over a wide range of usefulness. ▷ Check your wrench requirements with your Snap-on representative next time he calls . . . or write today for Snap-on's 1945 catalog.

**SNAP-ON TOOLS CORPORATION**

8036-H 28th AVENUE

KENOSHA, WISCONSIN





**GENERAL'S**  
**Car Dealer**  
**Tire Plan**

**THE GENERAL TIRE**

# *Get the Whole Loaf?*

**A PROFIT PLAN DESIGNED TO HELP YOU  
"Cash-in" ON YOUR WARTIME SERVICE RECORD**

**WITH GENERAL TIRE'S** postwar line-up, you will have a *double* opportunity for "whole loaf" profits.

... You will have America's recognized Top-Quality tires . . . a complete line that will appeal to every class of buyer because they know Generals deliver *extra mileage* and *extra safety*. And, every sale will be an *extra profit* sale for you.

... With Generals—and only Generals—you will have the *one* tire that will make every new car in your showroom a prospect for a complete *change-over*. For 30 years, Generals *alone* have been recognized for the premium-quality and premium-performance that have caused millions to pay extra to have them on their new car.

There's no question about it—tire-

starved car owners are more "quality conscious" now than ever before. They have depended upon you all through the war for the best in service . . . and will look to you for the best in tires when they are available.

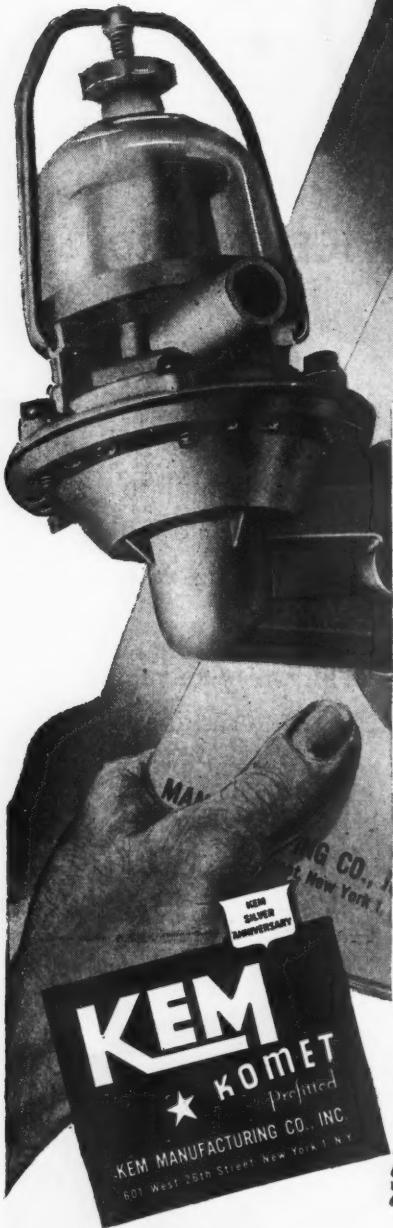
The *one way* you can be sure of keeping their fullest patronage . . . and cashing in on the "whole loaf" of postwar profits . . . is through the specialized profit-opportunities of the General Tire Plan.

Watch for further details . . . to be released as quickly as war conditions permit.



**THE FINEST TIRE GENERAL EVER BUILT!**  
Radically new, different, better... ready for volume production the day war restrictions are lifted.

**E & RUBBER CO., AKRON, OHIO**



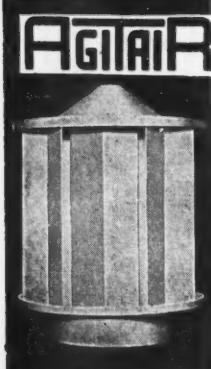
## KEM - The Complete Fuel Pump Line

Extends the dealer's profit margin. Heavy duty construction features, with plus margins of strength in casting, machining, insulation and oversizes in KEM FUEL PUMPS, KEM FACTORY REBUILTS, and KEM FIX-A-PUMP PAKS, mean business that repeats itself — customers who come to rely on their dealers for all major car care.

The entire Fuel Pump Line is backed up by the KEM REGISTERED GUARANTEE.

Send 25¢ for the Kem Fuel Pump Repair Manual. Write for the name of the distributor in your territory.

*Replace with KEM*



### VENTILATORS for GARAGES

Let the wind ventilate your garages and service stations. Breezes create suction within the Agitair Exhauster, and draw out hot, stale air and steam. When no breeze, Agitair does not impede natural ventilation.

Independent tests prove Agitair is best under actual operating conditions. No moving parts. No back drafts. Weather proof. Mount on any roof, vent, or flue cap.

• WRITE FOR BUL. EX-M

AIR DEVICES, Inc. • 17 East 42nd Street  
New York 17, N. Y.

### OPA Announces Price Ceiling on Jeep

THE civilian jeep—the peacetime four-wheel-drive counterpart of the military jeep built for the armed forces—was provided with a dollar-and-cent ceiling price by the Office of Price Administration.

The retail ceiling price is \$1,090, f.o.b. Toledo, Ohio, plus taxes and the customary trade additions for transportation, handling and optional equipment. Builder of the car is Willys-Overland Motors, Inc.

"This ceiling price is somewhat higher than the pre-war selling price of light passenger cars, because the civilian jeep basically is not a light passenger car but rather a four-wheel-drive one-half ton truck designed for utility trucking and farm and country use," James F. Brownlee, OPA's deputy administrator for price, said.

"The jeep is being priced as a 'new product' in the automotive truck field, and the pricing action is not connected in any way with reconversion pricing of new 1945 passenger cars."

### New Rust Inhibitor

A new liquid chemical, Cristy Drygas, has now been made available to the general public by the manufacturer, Cristy Drygas Products, Inc., Worcester, Mass.

The product is designed, it is stated, to eliminate automotive road failures caused by condensation in the gasoline supply system during the winter months also preventing rust from forming in the gasoline tank and supply lines.

Civilian application of Cristy Drygas will be extended to passenger cars, bus and truck fleets, farm and marine equipment.

Cristy Drygas requires no additional equipment and is easy and economical to use. One pint poured into 20 gallons or less of gasoline is all that is required for up to 300 miles of driving.

ASK YOUR JOBBER  
ABOUT

**EVERFLEX**  
NEOPRENE  
Flexible FUEL LINE ASSORTMENT  
Contains 75 Fast-  
No. 5 . . . Selling Fuel Lines

**EVERHOT PRODUCTS CO.**  
2055-59 W. CARROLL AVE., CHICAGO 12, ILLINOIS

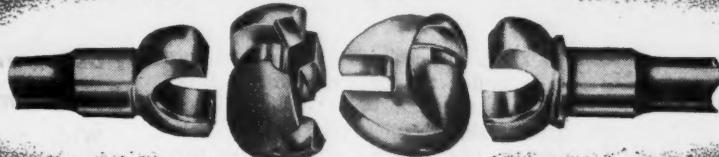
STRONG

TRACTA

SIMPLE

HEAVY FORGINGS

HARDENED AND GROUNDED



CONSTANT VELOCITY UNIVERSAL

For Front Wheel Drive and Independent Wheel Suspension

New Process

# TRACTA

## JOINT

The dependability and stamina of Tracta Joints have been demonstrated in the toughest and roughest service on world battle fronts. From hard and heavy hauling in the frozen Aleutians . . . to maneuvering the quick twisting, turning and jumping Jeeps on all terrain . . . Tracta Joints have given unfailing service.

The smooth-sliding, enduring precision operation of this joint has qualified its use also for modern machine tools, and other fine applications.

The small diameter of this joint relative to the shaft size is an important design factor. Sizes, torque capacities, operational and test data sent on request.

- Constant velocity to 38° (to 45° in special models)
- End float sufficient for most applications
- Functions even when out of original alignment
- Heavy, ground sliding surfaces minimize wear; no brinelling; always operates
- High efficiency, low frictional loss
- Assemble or dismantle without tools



15 Years in American and European service; improved and refined through this period



New Process GEAR CORPORATION

Differentials, Axles, Transmissions . . . Axle Gear  
SYRACUSE 1, N. Y.

## Ford Truck Brakes

(Continued from page 25).

ing off the adjustment. After the anchor bolts have been adjusted at each wheel it will be necessary to adjust the cam adjusters for each shoe as outlined in the paragraph covering minor adjustment.

To replace the shoes on the backing plate, place the shoes together, with the shoe with the full lining in the forward position and connect the retracting spring between the two shoes. Overlap the bottom of the shoes, allowing the top of the shoes to spread far enough apart to be slipped into the slots in the wheel cylinder pistons. Pull the bottoms of

the shoes out and slip the rib of the shoes under the flat hold down clips. Line up the holes in the lower ends of the shoes with the anchor bolt holes in the backing plate. Push the anchor bolts through the anchor bolt plate and install the eccentric washers on the anchor bolts. Enter the anchor bolts in the shoes and through the backing plate. Turn the anchor bolts until both eccentric washers enter the holes in the brake shoes. Install the lockwashers and nuts loosely on the anchor bolts. Turn the anchor bolts so that the punch marks on the end of the bolts face each other. Then install the hub and drum assembly and adjust the shoes as outlined in the paragraph on major adjustment.

## Post-war Models Revealed By Marmon-Herrington

With the announcement of new Heavy-Duty All-Wheel-Drive trucks for civilian purposes, postwar planning takes definite action at Marmon-Herrington Co., Inc., Indianapolis, Indiana.

Production is scheduled to start soon, and is to be concentrated on two models—Model MH555-4 and Model MH440-4. The larger of these, Model MH555-4, will be powered by a 131 h.p. engine, on a wheel base of 161 inches, with a permissible gross loaded weight of 27,000 lbs. on 11.00x20 tires. Slightly smaller, Model MH440-4 will be powered by a 118 h.p. engine, on a wheelbase of 158 inches, with a permissible gross loaded weight of 22,500 lbs. on 10.00x20 tires. Both models will have 10 forward speeds and 4 reverse.

Retaining the many well-known Marmon-Herrington features: low center of gravity, greater approach angle, constant velocity steering and joints, etc.—these new All-Wheel-Drives will embody also numerous design and construction refinements.

Cabs have been re-designed and streamlined for greater comfort and greater protection.

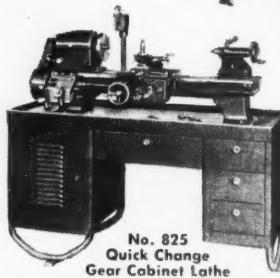
In addition to these new models, the Marmon-Herrington Company is also getting back into production, for commercial purposes, on their All-Wheel-Drive conversions of Ford vehicles. They are now offering, for reasonably prompt delivery, conversions of 1½ ton standard Ford trucks to both four-wheel-drive and six-wheel drive and conversions of the half-ton Ford pickup truck and station wagon to four-wheel-drive.

*Logan* A NAME TO REMEMBER WHEN YOU THINK OF BETTER LATHES



*The Reason for  
LOGAN  
ACCURACY*

Accurate work comes from Logan Lathes because accurate work goes into building them. Typical of maximum tolerances allowed are Bed ways within .0005" of parallelism, and headstock bearing faces held to an accuracy of .0005". To maintain such accuracy in lathe after lathe, one of every seven men building Logan Lathes is an inspector, skilled in the use of precision instruments such as Comparators, Johannson Blocks, Sine Bars, and the most accurate of gauges. Using this precision equipment, Logan inspectors check individual parts, sub-assemblies, and completed machines. They make certain, in short, that every Logan Lathe will work accurately because every part of that lathe fits accurately. This Logan stress on inspection, though costly, is also the wisest economy. Lathes which pass such rigid inspection make friends of the men who use them. Ask your Logan Lathe dealer, or write for full information on all Logan Lathes.



**SPECIFICATIONS common to all Logan Lathes:** Swing over bed, 10½"; Bed width across ways, 6-15/16"; Bed length, 43½"; Size of hole through spindle, 25/32"; Spindle nose diameter and threads per inch, 1½"-8; 12 Spindle speeds . . 30 to 1450 r.p.m.; Size of motor . . ½ or ½ h.p., 1750 r.p.m.; Preloaded precision ball bearing spindle mounting; Drum type reversing motor switch and cord; Precision ground ways, 2 prismatic 'V' ways, 2 flat ways.

What appears now to be a revolutionary single change of both design and material in postwar automotive construction, is the use of rubber "in torsion" as the springing medium for buses. Such springs already are in volume production and are being installed on hundreds of this year's buses.



**LOGAN ENGINEERING CO.**  
CHICAGO 30, ILLINOIS

D-6

**BUELL MANUFACTURING CO.**  
2991 COTTAGE GROVE AVE., CHICAGO 30, ILL.

**FLEXIBILITY**

**ADEQUATELY ENGINEERED**

**For All Types of Automotive Vehicles**

**FLEX-O-TUBE**

QUALITY

PRODUCTS

DURABLE

DEPENDABLE

**FLEX-O-TUBE HOSE ASSEMBLIES**

used in

Gasoline, Oil, Grease and Vacuum Lines

also

Flex-O-Tube Patented Attachable Fittings



All products

of the

ORIGINATORS

**Flex-O-Tube**

752 FOURTEENTH ST.

DETROIT 16

MICHIGAN

don't let sludge  
ruin the engine



TO CLEAN OUT  
THE ENGINE



TO KEEP IT  
CLEAN

Sludge, gum and acid are the greatest enemies to smooth performance and long life of motors. Present in all internal combustion engines they are certain to get in their dirty work unless checked and controlled.

Fortunately these petroleum residues can be controlled and rendered harmless easily and quickly with the use of LOOSITE and SILOO. For fifteen years these safe, swift working solvents have been helping to keep millions of motors in service at full efficiency. An initial LOOSITE treatment cleans the motor of sludge, gum and acid. Then SILOO added regularly with fresh crankcase oil keeps it clean. Lubrication flows freely assuring long, economical and smooth operation of your engine.

It will pay you to get started with LOOSITE and SILOO today. They mean steady, increased business from grateful customers. Ask your jobber today or write direct to us.

If you heat with oil—write for information on  
SILOO FUEL OIL TANK SOLVENT.

For sale by leading jobbers everywhere, and the White Motor Company branches and distributors

Petroleum Solvents Corp., 331 Madison Ave., New York 17, N.Y.

GET LONGER,  
TROUBLE-FREE PERFORMANCE  
with  
**Pedrick**  
precisioneered  
**PISTON RINGS**  
in guaranteed  
**ENGINEERED SETS**  
For every Car, Truck,  
Bus and Tractor

**REBUILT GENERATORS**  
and STARTERS  
also REWOUND ARMATURES  
For All Popular Make Cars

IMMEDIATE DELIVERY

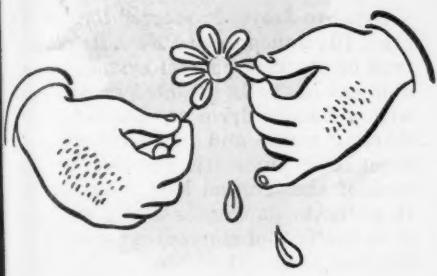
We stock only original units. All generators  
rebuilt with rewound armatures.

Write for Price List D.D.

**HASCO PRODUCTS, INC.**  
131 Park Ave. Lyndhurst, New Jersey

**BUTCH..**





## There's a Better Way to Choose **THE JOBBER YOU'LL DEPEND ON!**

Make a note of the things you *want* from a jobber . . .

Dependable quality, of course.

Immediate service on your everyday needs for cars and trucks of all makes.

Prompt delivery on the seldom-needed parts that no jobber can afford to carry in stock.

Then check your specifications against what your NAPA Jobber offers:

Quality that's assured by the NAPA Seal—backed by the largest independent organization in the parts industry.

Parts stocks tailored to meet present-day demands on the basis of NAPA's scientific classification of every number in every NAPA line.

And on those seldom-needed parts, prompt delivery from the nearest of NAPA's 38 Warehouses, where master stocks of every NAPA line are maintained. No waiting for "shipment from the factory."

No other jobber has the advantage of the comprehensive warehouse service—of the time-saving systems and methods developed by NAPA to afford faster and more complete service to automotive repairmen everywhere. The further you look into it, the more you'll realize that—



*Your NAPA Jobber  
is a Good Man to Know!*

★ Buy MORE War Bonds—and KEEP Them

## Named Plant Manager

William A. Moore, has been named Plant Manager of Inland Rubber Corp., new tire factory under construction at Ottawa, Illinois, William M. Collins, Jr., President has announced.

Mr. Collins also announced the appointment of Robert C. Dale as Acting Plant Manager of Inland's Chicago Plant on the South Side.

Inland is building the large tire plant at Ottawa for the manufacture of critically needed combat tires.

## Heads Ford Motor Sales And Advertising

Return of Tom Skinner to the position of assistant director of sales and advertising of the Ford Motor Co. has been announced by J. R. Davis, director of sales and advertising. He held that position for four years prior to the war, and for the past three years has been vice-president and general manager of the D-N-X Engine Corp., which built engines for the Navy in the Ford branch building at Buffalo, N. Y.

## Starting Control System

Synchro-Start Products, Inc., Chicago, Ill., announces a new automotive type of starting control system. This unit can be easily mounted on any car with a Bendix drive or solenoid shift starting motor and will give positive dependable automatic starting at the turn of the ignition key, it is stated. It prevents dangerous stalls on hills or in traffic and eliminates backfire or flywheel back-roll.

All necessary relays and transformers are housed in a small sealed box that can be easily mounted on the engine side of the bulkhead. Being self grounding, it requires only three No. 14 hook-up wires, one to the ignition switch, one to the breaker points and one to the solenoid switch on the starting motor. The same solenoid switch used for standard push-button starting may be used without changing the heavy battery cables.

## New Lathe File

Kennametal Inc., Latrobe, Pa., announces the development of a new lathe file that retains the advantages of previous models in that it will cut steels no ordinary file will touch, at speeds 3 to 10 times faster than possible with steel files, with a life of 50 to 200 times as long. In addition it provides longer filing surface, quick, easy blade replacement, and greater handling convenience.

One size is now available—the F-45, 13 1/2 in. long overall—with a filing surface 3/4 in. wide x 8 in. long, comprising two 3/4 in. x 4 in. Kennametal blanks. This file is available at the same price as the previous model.



## EYE APPEAL ALONE ... Won't Keep Your Customer's Car Rolling

Many a shiny job is headed for the junk heap because of cooling system failure...

## KI-MO cooling system service NOW will save customers' cars... add to your profits!

Hot weather brings trouble for cooling systems; makes work for servicemen... work that can mean added, easy profits when KI-MO is used. KI-MO is a cooling system conditioner... a fast, safe, efficient cleaner. KI-MO will remove rust, slime and scale while you go about your work. No neutralizer required.

Note: KI-MO may be left in cooling system indefinitely...it's harmless...NON-ACID...FOOL PROOF!

**KI-MO**  
PRODUCTS

**Service Supply Co.**

1115 SEVENTH ST. DENVER 4, COLO.



**STOP**  
PISTON SLAP  
OIL PUMPING  
MOTOR NOISE



**WITH**  
**MASTER RECAMs**

MASTER RECAMs are individually designed for all late model cars; easily installed without removing pistons. The profitable way to Stop Piston Slap, Oil Pumping and Motor Noise.

**50¢ EACH**

REGULAR DISCOUNTS TO JOBBERS AND DEALERS

WHERRY ENGINEERING COMPANY  
3227-29 Morganford Rd., ST. LOUIS 14, MO.

THE  
WEATHERHEAD  
"LINE":



Fittings



Fuel Lines



Dash Controls



Drain Cocks

World's Largest  
Manufacturer  
of Fittings and  
Flexible Hose  
Assemblies

The  
WEATHERHEAD  
COMPANY  
Cleveland, Ohio



*"Now you know what they mean when  
they talk about manpower shortage!"*

## NSPA Releases Booklet On Inventory Control

Prompted by the ever increasing need for efficient inventory control methods in the automotive after-market, the National Standard Parts Association recently completed a survey among member wholesalers to determine what systems are being used and which are proving most satisfactory. Results of the survey have been prepared for NSPA wholesalers in the form of a 20-page booklet which includes an 11-page section featuring photographic reproductions of a variety

of record forms in detail.

This printed release is the most recent in a continuing series designed to assist automotive jobber management in a practical manner during the gradual transition to a peace-time economy.

Revealed by the association survey is the fact only 8 per cent of the reporting jobbers today are operating without a modern system of perpetual inventory records. Although a majority of the jobbers still use drawer card systems, the survey indicated a trend toward patented systems of both card and binder sheet types.

## Automotive Devices Aid Disabled War Veterans

Disabled war veterans are going to be able to drive cars. This is in answer to questions that are being asked by veterans everywhere; and the answer has been supplied by automotive engineers who have worked together for many months under the sponsorship of the Society of Automotive Engineers. During these months careful studies were made by committees of engineers who developed various devices, not only for men without hands but for men who have lost one or both legs.

Typical of one such arrangement is that being used by Lt. Edwin V. Rawley of the Army Air Forces. Early this month he took delivery of a 1942 Chevrolet equipped with attachments that enable him to steer, shift gears and otherwise handle the car with ease. He is touring the country under the auspices of the Hospital Liaison Division, Army Air Forces, to demonstrate how a so-called "handicapped" veteran can get along.

In this connection, the automobile industry is working closely with the SAE, and the Automotive Council for War Production are working closely with the American Association of Motor Vehicle Administrators, the organization which is responsible for issuing driving licenses. Together they have worked out acceptable driving aids for disabled veterans, ones which will be acceptable from a safety and comfort angle so that veterans can take examinations and receive drivers' licenses without difficulty.

In a survey conducted in Canada, it was revealed that 762,568 people expect to purchase new autos after the war.

**LOOK INSIDE  
A LUBRICATING UNIT FOR  
Performance . . .**

The backbone of any lube unit is the pump, therefore, the efficiency and service of the unit hinges on the performance of the pump. This you can depend upon—a lube unit is no better than its pump. On a U. S. pumping unit, there is but one valve, a patented Rotary air valve with wiping action which is the only seal and actually improves with use. No packed joints to wear and leak. Each stroke means positive action whether up or down and produces a free flow of lubricant. All moving parts are enclosed in the head, fully protected from dirt or injury of any kind. Modern engineering, simplicity in design and operation, fewer working parts, positive action and quality materials, all go to make U. S. Lubricating units the finest money, brains, and experience can produce. There are no better lubricating units made at any price.

**"IT ALL  
DEPENDS  
ON THE  
PUMP!"**

**U.S. AIR COMPRESSOR CO.**  
5300 HARVARD AVENUE • CLEVELAND, OHIO  
AIR COMPRESSORS • HYDRAULIC LIFTS • LUBRICATING EQUIPMENT

**CLUTCH FACINGS • RIVETS**  
**BRAKE SHIM STOCK • RELINING EQUIPMENT**

**I KNOW IT LOOKS  
DANGEROUS - BUT  
IT'S NOT, I HAVE  
SOUTHERN  
BRAKE LINING**

**SOUTHERN**  
FRICTION MATERIALS CO - CHARLOTTE NC

# HOW FRAM HELPS

## 1 Helps Keep Cars on Road:



Today's neglected roads mean that more dirt, moisture and unburned gasoline are sucked into the engines of cars . . . while ordinary driving conditions increase the formation of sludge and acids in motor oil. And that's why Fram is more necessary than ever! You see, Fram oil filters and Fram replacement cartridges filter out dirt, dust, carbon and sludge and the exclusive Fram chemical treatment impedes formation of harmful acids and corrosives that eat away motor parts. That's how Fram helps keep America's cars rolling.

## 2 Helps Keep You in Business:



With gasoline rationing . . . and with thousands of cars being junked daily . . . you service men need, as never before, the extra sales, extra profits, offered by Fram. So today, when 3 out of 4 engines need Fram filters or Fram replacement cartridges, be doubly sure to ask every customer, "How's Your Oil Filter?" Remember, Fram filters and cartridges are not rationed . . . they are a vital necessity. So push Fram hard! It's the proved way to make more profits.



Identify yourself with Fram national advertising. Ask your jobber about snappy coveralls and shopcoats.

### FRAM CORPORATION

Providence 16, R. I.

In Canada: J. C. Adams Co., Ltd.,  
Toronto



**FRAM**  
OIL & MOTOR CLEANER

## Legally Speaking

A lawyer's interpretation of federal and local court decisions of interest to repairmen, presented each month.

### Safety of Customers

Repairmen and others maintaining places of business for the use of customers are reminded by a New York court that walks, steps, and other approaches to the business building must be kept in a safe condition. If a customer suffers any injury by reason of a "defect" in such approaches, the proprietor of the business place will be held legally and financially responsible.

In the New York case a man fell on a walk leading from the public street to the business place. His fall was apparently caused by ridges of

ice on the walk. The jury found that the walk had been in a dangerous condition for quite some time and that this condition had existed long enough to give the proprietor "constructive notice."

"Constructive notice" is a somewhat tricky thing in the law. It means that where a defective condition has existed in an approach to the business building or within the business building itself for a considerable length of time, the proprietor of the business is considered to have "constructive knowledge" of the defect whether he actually knew about it or not. The idea is that if he did not know about it, he should have known, and he will be held to the same degree of responsibility as if the defect had actually been brought to his attention.

Ice on a walk was the particular

"defect" in the New York case, but any kind of hazardous condition that causes injury to a customer or other business visitor, is sufficient to make the proprietor of the place legally and financially liable.

(*Geiger vs. Voorhees, 300 New York Supplement, 849.*)

### Cash Checks Promptly

Repairmen and other business men are warned by a recent Tennessee court decision of the dangers of delay in cashing checks received from customers.

In the Tennessee case, a creditor received a check in payment of a debt owed to him by the drawer of the check. By the time the check was presented for payment to the bank on which it was drawn, the account had been attached by another creditor of the drawer of the check, and the bank refused to pay the check on the ground that the account was "bound" by the attachment.

When the matter finally came before the court, it was admitted that the check had been issued two days before the attachment had been served at the bank. This did not help the holder of the check, however, because he did not present the check to the bank until after the attachment was served.

"As the check had not been presented to the bank at the time the bank received notice of the attachment," the court ruled, "the entire amount in the account thus attached was at that time subject to the attachment. The check did not operate as an assign-

(Continued on page 92)

## Precision manufacturing simplifies service and dependable products guard goodwill



P & D quality starting, lighting, ignition, replacement parts and coils speed profitable service station work. P & D products protect your reputation with old and new customers. Precision in manufacturing, dependability in service — that's what you get by handling the P & D line!

P & D offers only one complete line — the finest — for servicing trucks, buses and automobiles. Using one dependable line eliminates confusion in ordering and minimizes inventory. P & D's high quality standards assure you and your customers of satisfactory work.

P & D products perform better, last longer.

You cannot purchase any finer quality



MANUFACTURING COMPANY, INC.

LONG ISLAND CITY, NEW YORK

STARTING • LIGHTING • IGNITION • REPLACEMENT PARTS  
P & D MANUFACTURES ONLY ONE COMPLETE QUALITY LINE. ONLY THE FINEST MATERIALS AND WORKMANSHIP OBTAINABLE ARE EMPLOYED

## WITTEK NOC-OUT HOSE CLAMPS



For over 20 years standard of the automotive industry for dependable hose connections.

WITTEK MANUFACTURING CO.  
Chicago 23, Illinois

**WITTEK**  
**HOSE CLAMPS**  
Dependable Hose Connections



# Something NEW!

## Another AP "First" —Saves up to 106 minutes installation time

You can do it—with the NEW 2-PIECE AP Tail Pipes—available for the first time for some models of Buick, Oldsmobile and Chevrolet that previously caused difficult, time-taking installations with one-piece pipes. Just think of it—as much as 106 minutes (1½ hours) installation time can now be saved on those jobs that necessitate removal of gas tanks, shock absorbers, stabilizer rods, rear

springs—even jacking up the body—to install one-piece pipes. Free yourself of this excessive labor. Free your lube rack for other and additional revenue producing jobs. Get 2-PIECE AP TAIL PIPES now. See your nearest AP Distributor at once. Only through him can you obtain this newest AP innovation. The AP Parts Corporation, 1807 Spielbusch Ave., Toledo 1, Ohio.

**New  
2-PIECE** **AP** **TAIL PIPES**

FOR BUICK, OLDSMOBILE  
and CHEVROLET

## Legally Speaking

(Continued from page 90)

ment to the holder of the check of any part of the money on deposit. Therefore, the bank was not liable to the holder of the check unless and until it accepted or certified the check, and this the bank did not do."

When a merchant receives a check from a customer or debtor, the check may be good at the time, but it is quite possible that the bank account may be attached before the check is presented for payment. In that event, the check will not be paid.

Moral: cash all checks at the earliest possible moment! (*Saunders vs. Moore, 110 Southwestern Reporter, second series, 1046.*)

## Safety of Employee

The legal duty of an employer with respect to providing safe working conditions for his employees is discussed at some length in a recent Missouri case. Ruling in favor of the employer, the Missouri court said:

"The burden was on the employees to prove that the tools and appliances used for his work were not reasonably safe and that his employer did not exercise ordinary care to furnish reasonably safe tools and appliances with which to do the work. The employer does not insure the safety of his employee; neither does he insure against danger. His liability rests on negligence only."

"The employer is bound to exercise ordinary care and to furnish reasonable

safe tools and appliances to his employees with which to perform their work, but this does not mean that he has to conform to every new invention, nor must he obtain and use the best and newest tools and appliances obtainable. He is only required to exercise ordinary care in the selection of the tools and appliances.

"The test of negligence in this connection is the ordinary usage and custom of similar business. The standard of ordinary care is the conduct of ordinarily prudent persons under like circumstances, and the employer performs his duty toward his employee when he furnishes appliances of ordinary character and reasonable safety, for absolute safety is unobtainable."

"The employer, in addition to exercising ordinary care to furnish his employees with reasonably safe tools and appliances with which to perform their labor, must exercise ordinary care to furnish his employee with a reasonably safe place in which to perform his work. The employer would not be liable to the employee for an injury resulting from some ordinary hazard that existed in the doing of the work and which was incident to the work and the employment, where it merely arose from the work itself, and not from negligence on the part of the employer."

Ordinarily, under the workmen's compensation laws of the several states, the employee is entitled to collect compensation for injury sustained in the course of his work regardless of whose fault it was that the injury occurred. However, in many states an injured employee may bring a damage suit against the employer instead of taking workmen's compensation, and the legal principles above quoted apply to such damage suits between employee and employer. (*Emerick vs. City of Springfield, 110 South Western Reporter, second series, 840.*)

### SAYS THE MAN IN THE HELMET—

**"I get nice, smooth flat fillets every time with AIRCO No. 78E..."**

(AWS Classification E6010)

... "It's my favorite electrode for all-position welding of mild steel."



"It produces neat, high quality, flat-faced fillets in all positions and is especially good on vertical and overhead.

"Airco No. 78E puts plenty of zip in the arc and its fine spraying action — plus the special coating — speeds vertical and overhead fillet welds.

"There's no interference from slag, no deflection in the arc in any position. Deposit speeds are faster — weld contour is always tops.

"Slag comes off easily, — another good feature. That's why I say when the job calls for an E6010 electrode — and when quality, speed and appearance are important — give me Airco 78E every time."

Take a tip from the Man in the Helmet and select your electrodes for their working ease and efficiency as well as for their metallurgical properties.

There is a complete line of Airco electrodes for every welding job. Catalog 120 gives full details. For a free copy write the nearest Airco office or Dept. MA Air Reduction, General Office: 60 East 42nd Street, New York 17, N. Y. In Texas, Magnolia Airco Gas Products Co., General Offices: Houston 1, Texas.



**AIR REDUCTION**

Offices in all Principal Cities

Weld with

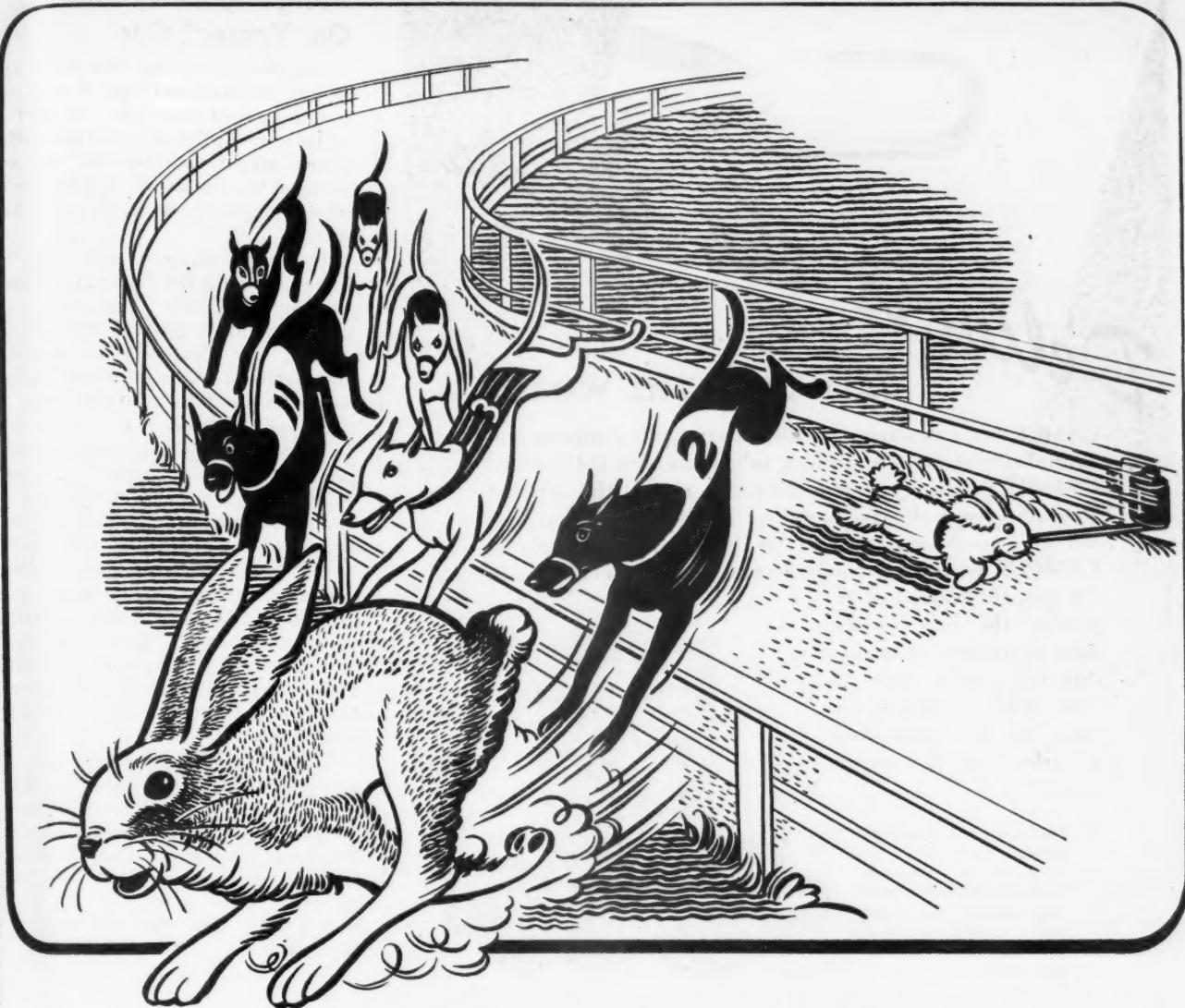


**ELECTRODES**

FOR BETTER WELDS  
AND EASIER WELDING



"I hear she painted her toe nails just to attract the attention of these American Marines!"



## "IF IT'S GENUINE, THEY'LL GO FOR IT EVERY TIME!"

Yes, Sir! There's no satisfactory substitute for the real thing. And when it comes to repair parts, there's no better way to keep Ford owners happy and contented than to

use Genuine Ford Parts when servicing their cars. They're exact duplicates of the parts originally built into Ford cars. Ford owners prefer them for this reason, so . . .





CAMEL hot vulcanizing patches repair both synthetic and natural rubber tubes to prolong tube usefulness indefinitely. CAMEL Patches are manufactured under the strictest laboratory control, have stood up in all kinds of perilous military operations as well as leisure civilian driving. CAMEL'S deliver the goods because they are made to fill the specific demand of repairing the tube to the same perfection of quality originally built into it. Once sold, CAMEL'S continue to sell themselves because they "deliver the goods."

The complete familiar CAMEL line carries the same easy-to-remember Camel, quickly identified and chosen the world over. CAMEL'S are best for many household repair jobs, too.



Look for the familiar CAMEL package anywhere!



## CAMEL Patches

H. B. Egan Manufacturing Company, Muskogee, Oklahoma  
In Canada: GEORGE M. WATSON & CO., Ltd. Toronto, 2

Other CAMEL Products available in the complete line are: Quick Cure Gum, Tube Repair Kits, Garage-size Kits, Vulcanizing Cement, Rubber Cement, Tire Patch Cement, Vulcanizing Kits, and Valve Stem Heat Units.

# PALMGREN

### No. 250 MILLING FIXTURE VISE

Every garage, dealer, service shop should have this fixture. Fits any 8"-9"-10" South Bend, Atlas, Craftsman, Sheldon or other lathes of similar sizes. Graduated vertical feed screw and 360° graduation for vertical angle adjustments. Easily mounts on cross slide with T-slot bolt. Equipped with PALMGREN VISE 2 1/2" Jaws, plain and grooved jaw for holding round pieces.

#### DO MILLING ON YOUR LATHE

No shop fixture is more important. Numerous milling operations can be done on your lathe, and it soon pays for itself in repairing parts or making new parts. When ordering give make, also sizes of lathe and T-slot on cross slide. Price \$24.75.

Order Direct or thru Jobber! Write for Circular No. 348  
CHICAGO TOOL and ENGINEERING CO.  
8351 South Chicago Ave.

### Designing Completed On "Frazer" Car

Completion of the designing and styling of Graham-Paige Motors new medium-priced car—the "Frazer"—by Howard A. Darrin, internationally-known stylist and engineer, was announced by Joseph W. Frazer, chairman and president of the auto concern.

The announcement was made in connection with the departure of Darrin for the Pacific Coast, where he will play an important role in designing the "Kaiser," a low-priced automobile to be manufactured by the newly-formed Kaiser-Frazer Corp.

Frazer disclosed that Darrin had been working on the medium-priced car for the past year and that it will be in production by early next year or "possibly sooner," depending on availability of materials and termination of war contracts at the Detroit plant.

Frazer, who also is president and general manager of the Kaiser-Frazer Corp., said that the "Kaiser" also will be in production by early next year. This full-size, light-weight, low-priced car will be manufactured on the Pacific Coast.

A third automobile, Frazer said, is now being designed in Detroit by William B. Stout, noted aircraft and auto designer who recently was appointed director of the Graham-Paige research division. Frazer said that the Stout car will be in production "a little later" than the "Kaiser" and the "Frazer."

### Ferguson Announces Postwar Tractor Figures

Harry Ferguson, chairman of Harry Ferguson, Inc., has announced that his company has set a postwar goal of one million farm tractors to be built by Ford Motor Co. and to be sold at between \$500 and \$600. In addition the company intends to build a line of 160 implements to be used with the tractor.

### AN OLD FRIEND RETURNS!

THE well known Rimac Valve Spring Tester, for years a highly valued item of shop equipment, is back on the job. Uncle Sam had first call on this finely built, accurate instrument. And incidentally, while satisfying stiff military requirements, our engineers developed ways of making it better than ever—for you!

### RIMAC SPRING TESTER

For Valve & Clutch Springs  
We are glad to announce that soon we hope to resume deliveries in limited numbers to our Trade. Write for details

RINCK McILWAINE, INC.  
16 Hudson St., New York 13, N. Y.



# DEPENDABLE QUALITY

Willard engineering skill and long manufacturing experience are devoted to maintaining Willard quality at ONE traditionally high standard . . . the WILLARD standard. As a result, WILLARD quality is dependable quality. It is reflected in the long life and reliable performance which Willard users expect from Willard Batteries. When you sell Willards, you sell DEPENDABLE quality.



**"SAFETY-FILL"**  
**WILLARD**  
BATTERIES



Awarded Cleveland  
Man. Willard Storage  
Battery Company

— in Tanks • Combat Cars • Jeeps • Walkie-Talkies •  
Ships — and in Cars, Trucks, Tractors and Buses at home.

... the power to carry on !

WILLARD STORAGE BATTERY CO. • CLEVELAND • LOS ANGELES • DALLAS • TORONTO

AUGUST, 1945

When writing to advertisers please mention *Motor Age*

## New Folder Describes Basa Face Hammer

A new folder has been published by Greene, Tweed & Co., illustrating and explaining the Basa Replaceable Face Hammer, which is especially designed for use on surfaces that must be protected from marring.

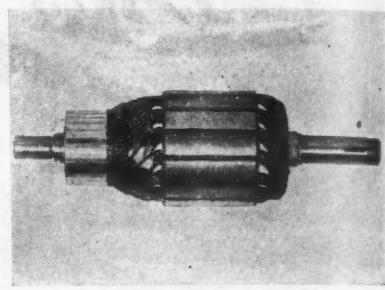
The bulletin concisely describes the adjustable split head, interchangeable faces and balanced handle of this hammer. A tabulation of typical applications and uses is also given.

Illustrations show the method of removing and replacing the interchangeable faces, which are available in a choice of aluminum, copper, babbitt, rawhide and plastic. List prices and weights are also included for the five standard sizes in which Basa Hammers are supplied. Complete descriptions are included in the folder.

Copies of the bulletin No. B-1 may be obtained on application to the manufacturer, Greene, Tweed & Co., Bronx Blvd. at 238th St., New York 66, N. Y.

## New Type Armature

Balance and ventilation are incorporated in the General "B V" type armature. These features are achieved by a process of winding and forming of coils before they are placed into the armature construction, the manufacturer states. This means that each coil contains the same length and size of wire. Prewinding eliminates stretching of wire, therefore the electrical impulses are all equal, which accomplishes an electric "balance." All coils being the same length, also results in a mechanical balance of the unit.



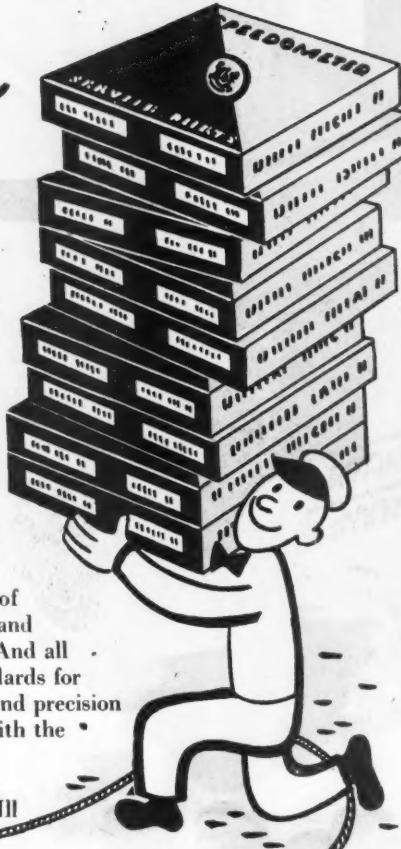
## SERVICE 95% OF ALL SPEEDOMETER JOBS WITH ONLY

9 Assemblies!

UNITED'S  
"NECESSARY NINE"  
CABLE & CASING  
ASSEMBLIES

United's "NECESSARY NINE" universal cable and casing units eliminate measuring . . . cutting . . . fitting . . . adjustments! No trouble over cable and casing matching! Complete assembly service on 95% of all popular cars—21 passenger cars and 13 trucks (317 models, 1931-1942). And all units are built to United's top standards for fine materials, skillful engineering, and precision manufacture. Simplify your work with the "NECESSARY NINE"!

United Parts Mfg. Co.,  
1250 W. Van Buren St., Chicago 7, Ill.



SEND FOR  
NEW CATALOG!

Just printed! All the data you need to service speedometers, arranged in unusually clear and easy-to-find style. Ask your nearest NAPA Warehouse for catalog No. 444.



# UNITED PARTS

HYDRAULIC BRAKE PARTS • BRAKE CABLES  
SPEEDOMETER CABLES & CASINGS • FUEL & VACUUM PUMP PARTS

As the coils are pre-wound and pre-formed before installation in the armature, they are installed in such a manner as to provide channels for air circulation at both ends of the armature and, therefore, provide air circulation for low temperature operation and longer life. This keeps the armature cool for best electrical performance.

These armatures are impregnated with a high grade insulation varnish which retains its elasticity, rigidity and insulation properties for an extra-long period, at maximum output.

This balanced and ventilated armature for the replacement field, is made by the General Armature Corporation of Pennsylvania, Lock Haven, Pa.

## Sales Staff Appointments Named

Appointment of Samuel D. Braden and Milford C. Berner as Special Representatives on the sales staff of the Packard Motor Car Company was announced by L. W. Slack, vice president and general sales manager.

Slack said duties of the two men will concern supervision of sales activities and dealer development in western territories.

"Assignments given Messrs. Braden and Berner represent another step in consolidation of plans, on the basis of sales potentialities, toward postwar distribution of 200,000 cars annually," Slack said.

Braden, with headquarters in Oklahoma City, will cover Oklahoma, the Texas panhandle area, and part of New Mexico. Berner will work out of Denver in Colorado, Montana and most of Wyoming.

# HALL MODEL 80 WET TYPE VALVE REFACER

DUPLICATES ORIGINAL FACTORY PRECISION AND FINISH

Special type COLLET holds valve stem securely without brinelling or marking stem. Ranges 9/32" to 3/4".

QUICK-ACTING CHUCK LOCK for quick, easy insertion or removal of valve.

FULL BALL BEARING SPINDLE insures smoother operation longer.

WET GRINDING prevents surface burning and stem growth.

MOTOR  
1/3  
horsepower.

Handles valves to 4" head diameter.

MICROMETER WORKHEAD FEED CONTROL. Operator knows exact amount of metal being removed.

MOTOR SWITCH conveniently located.

TRANSVERSE or CROSS-FEED LEVER Locks Wheel to desired position when grinding.

V-BELT DRIVE for smooth power; Quick acting CLUTCH for stopping Workhead without stopping Motor.

DOVETAIL TYPE WAYS accurately machined. Spring-loaded bronze gibbs compensate for wear and maintain constantly even pressure. Base doweled for various angle settings.

Consult your HALL Jobber or write the factory for complete information.

Designed and built to provide years of trouble-free performance with precision and finish equalled only in factory production.

THE HALL MANUFACTURING COMPANY • TOLEDO 7, OHIO

**H**  
**A**  
**L**  
**L**

## WORN IGNITION CABLE STEALS PEP AND WASTES GAS . . . WHEN YOU LOOK INSIDE



Check  
Cable  
Too!

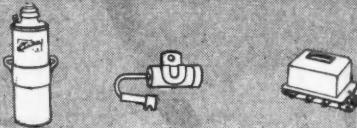
Don't put that hood down yet! Take a look at the ignition cable. Have heat and oil and moisture cut their notches yet? Engine power and pep that leak through those tiny cracks waste precious gas. Remember, tape can't hold back the 10,000 V in a cable. So do your customer and yourself a good turn. Suggest replacement with Quality Brand Ignition Cable—it means an extra profitable sale.

**BLUE STREAK**  
IGNITION PARTS



**STANDARD MOTOR PRODUCTS, INC.**

37-36 NORTHERN BOULEVARD • LONG ISLAND CITY, N.Y.



**Buffalo MUFFLERS**

*Stop that Noise!*

BUFFALO PRESSED STEEL CO., INC., YOUNGSTOWN, OHIO

**Since 1897**  
**UNITED STATES**  
**ELECTRICAL TOOLS**  
have never swerved from their  
original standards of **QUALITY**  
AND **SERVICE**

**THE UNITED STATES**  
**ELECTRICAL TOOL CO.**  
CINCINNATI, OHIO

### Robert M. Bowes



Robert Malcolm Bowes, president and founder of Bowes "Seal Fast" Corporation, died at his home in Indianapolis, Indiana, June 23.

Widely known throughout the automotive industry as a manufacturer of tire repair and automotive equipment bearing his name, Mr. Bowes was also known as a sponsor of racing cars in many of the famous 500-mile races at Indianapolis Speedway.

Mr. Bowes and his brother, Charles E. Bowes, organized the Robert M. Bowes Company in 1919 and two years later changed the name of the company to Bowes "Seal Fast" Corp.

Mr. Bowes gained national attention during the past several years by the Bowes Plan, through which he sponsored a program of education in salesmanship which will be introduced at Indiana University and other educational institutions for the benefit of war veterans. Much of the company's advertising since 1943 has been devoted to selling the idea behind this plan to other employers.

Mr. Bowes was 60 years old.

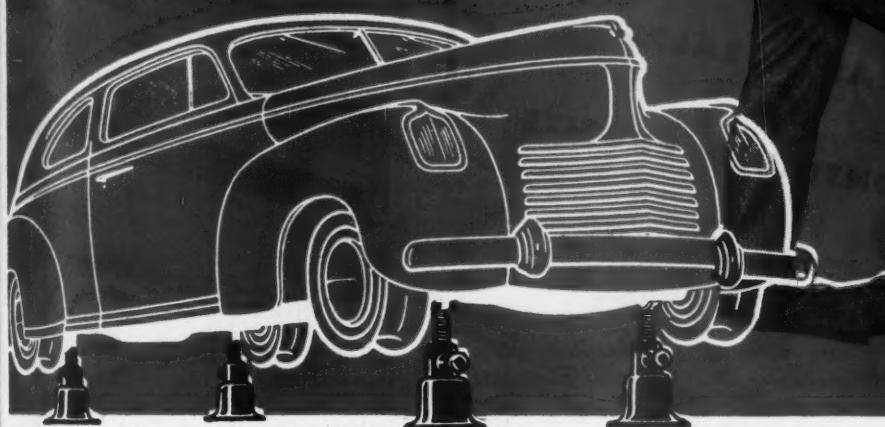
### Pontiac Shifts Tank Axle Job

Pontiac Motors Div. of General Motors Corp. has moved its entire tank axle job from one plant to another in order to clear the decks for automobile production. The job was completed without loss of production by working out a moving schedule which permitted moving machine-by-machine and man-by-man. As fast as machinery was moved out of the plant, automotive equipment was moved in and installed. Studebaker Corp. also is concentrating its war production under one roof. The company is spending \$1.5 million to channel its Weasel contract into one plant in order to free space for reconversion.



"We know you'll take good care of her, son, but have a mechanic check her over when you get to Niagara, will you?"

# YOU Can't Sell Anything to Guys Who Ride Trolleys



## Keep Cars Rolling and Customers Coming With BOWES TIRE-SAVING REPAIRS

When they stop driving, they stop buying—from YOU. The man whose car is laid up doesn't buy fan belts, gasoline, tire repairs or anything else you've got to sell. Just one bad tire repair, one torn-up casing can lay up a car for the duration . . . and another customer is GONE!

YOUR JOB is to keep those tires *running* . . . if you want to keep on making money. Tires are getting pretty thin and harder to repair. "Just any" method will no longer do the job. BOWES modern tire repair methods and better materials **WILL**!

BOWES equipment and training enable you to do an EXPERT job of tire inspection and repair . . . inside and out . . . to find hidden bruises, small cuts and dry rot **BEFORE** they become serious . . . AND . . . to make

SAFE, lasting repairs that keep tires delivering transportation to the last usable mile.

Bowes Methods save time and labor, help you do more profitable work each day and make more money on each job.

A Bowes Distributor will gladly call on you without obligation and show you how Bowes modern methods and inexpensive specialized equipment can help you keep your customers **DRIVING**. If you want this valuable, money-making advice sign and mail this coupon today.

BOWES "SEAL FAST" CORP.  
INDIANAPOLIS 7, INDIANA

Please have your distributor call on me at his first convenience. I agree only to listen.

Name.....

Street.....

City..... State.....

**BOWES**



*Dependable*

**TIRE SAVING SYSTEM**

BOWES "SEAL FAST" CORPORATION, INDIANAPOLIS 7, INDIANA

**SOUND YOUR**

**...and get all three!**

**1 CUSTOMER SATISFACTION**

**2 INCREASED SALES**

**3 CONTINUED PROFITS**

It's easy to see why Motorists need the best quality oils and lubricants to keep today's older cars on the road. Consistent, colorful national advertising in their favorite magazines tells these owners how Pennzoil protects their engines, keeps vital parts clean, delays or prevents breakdowns due to oil failures. Their own experience, and that of experts, confirms these claims.

When you display the familiar yellow

oval Pennzoil sign at your station, you take advantage of established public acceptance. All Pennzoil's advertising and promotion is focused on your station to increase sales of these and your other quality products and services.

Your local Pennzoil distributor will give you more facts on the many advantages to you of Pennzoil quality and consistent promotion. Call him or write direct to The Pennzoil Co., Oil City, for his name.

Current Pennzoil advertising appears in these magazines: The Saturday Evening Post, Life, Callier's, Time, American, Country Gentleman, Farm Journal, Successful Farming, Arkansas Farmer, Dairymen's League News, Farm and Ranch, Hoard's Dairyman, Pennsylvania Farmer, Progressive Farmer, Southern Planter, Texas Farming and Agriculture.

## THE PENNZOIL COMPANY

EXECUTIVE OFFICES • OIL CITY, PA.



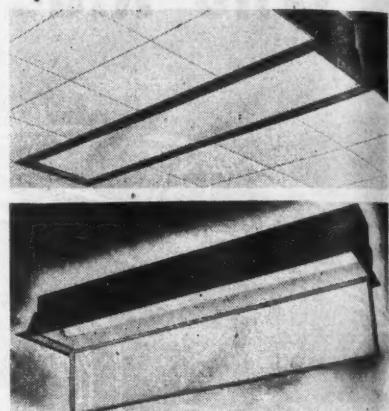
Muck and scale quickly removed and brake cylinder polished to a mirror finish in a few seconds. Eliminates wasteful outside trips Does the entire job in your own shop. \$3.25 FROM YOUR JOBBER

THE HYLAND MANUFACTURING COMPANY  
518 John Street Portsmouth, Ohio



## Fluorescent Fixture

A new type of fluorescent fixture to solve both the problem of architectural harmony in a lighting plan and that of easy service in cleaning and replacing lamps is announced. The new WILEY "Recessed Troffer" fixture is designed to fit in as little as 7-in. space between the true ceiling and the false ceiling into which fixtures are recessed. The top of the reflector is removable so that wiring and ballasts may be reached without taking down the fixture.



The WILEY "Recessed Troffer" fits into a ceiling opening of 12 in. x 48 in. It is made for both individual installation or continuous runs in open, louvered or ribbed glass models for 2, 3 or 4, 40-watt lamps with instant start or starter ballasts. Manufactured by R. & W. Wiley, Inc., 129 Dearborn St., Buffalo 7, N. Y., and is described in Bulletin No. 305.

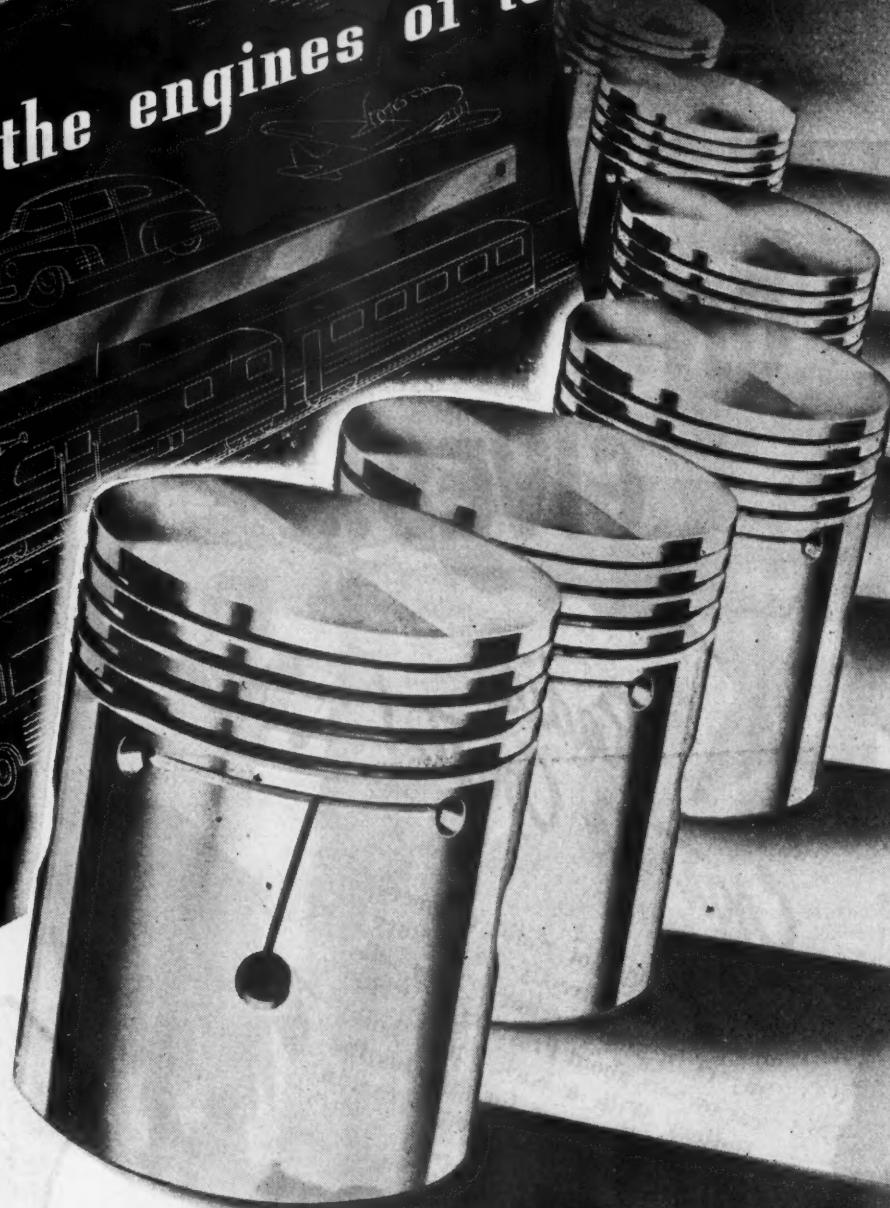
## Pontiac Zone Managers Begin Management Course

Zone service managers from eighteen Pontiac zones are the first group to be enrolled for a two weeks course in service management training at the General Motors Institute, D. U. Bathrick, sales manager of Pontiac Motor Division, reports. They will be followed by service managers from Pontiac dealerships.

"The program was developed by Pontiac in cooperation with the Institute and recognizes the vital need for service management training from the standpoint of the dealer and the public," Mr. Bathrick said. "The combined experience of all GM car and truck divisions and of the Institute has been incorporated into the two weeks training program."

The program does not deal with mechanical subjects, and includes the following: Dealing With People, Efficient Use of Service Department Facilities, Good Housekeeping and Safety Practices, Operating Procedures, Business Management in Service Department Operations, Factory Relations and Merchandising.

For the engines of tomorrow...



**LO-EX\***  
**PISTONS**

} Product of ALCOA aluminum

\* Registered trademark



**ALCOA ALUMINUM**

# \*\*\* The Program with a

ONLY PREST-O-LITE  
GIVES...

Radio  
Coast to Coast!



Action-getting spot radio commercials beamed directly to battery buyers in your territory. They tell car owners about Prest-O-Lite. They tell Battery With a Kick, "help build traffic and volume for you. It's the most effective spot radio program in battery history.



# Prest-O-Lite

# KICK goes into action

2

## Sales Building Kits!

Colorful displays, window trims, novelties—all designed to help you build volume and profits right at the point of sale. Every piece is based on ideas proved in use by thousands of dealers coast to coast.

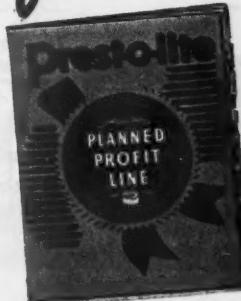


3

## Prest-O-Lite Profit Plan

Prest-O-Lite's Profit Plan is made-to-order for dealers who want to do more business—make more money. To cash in on Prest-O-Lite in 1945, see your jobber or write to

PREST-O-LITE BATTERY COMPANY, INC.  
INDIANAPOLIS 6 • INDIANA



\*  
Prest-O-Lite Batteries  
are manufactured at  
**INDIANAPOLIS**  
**NIAGARA FALLS**  
**ATLANTA, OAKLAND**  
**OKLAHOMA CITY**  
**TORONTO, ONT.**

# THE BATTERY WITH A KICK...



# PROTECTION FOR TODAY'S MOTORS AND TOMORROW'S SALES!

When you sell AMALIE Pennsylvania Motor Oil you do two very important things besides making an immediate profit. You give over-worked motors the protection needed for prolonged life . . . and you protect your own future business by helping to keep your customers' cars and trucks on the job under today's tough operating conditions.

AMALIE is 20% oilier — a plus for your customers which is the result of AMALIE'S exclusive straight-run process of refining 100% Pennsylvania crude at temperatures 100 to 200 degrees lower than those used in conventional processes.

Feature AMALIE Pennsylvania Motor Oil and AMALIE Lubricants, designed and engineered to reduce friction, metal wear and noise in every important part of your customers' automotive equipment.



**AMALIE DIVISION**  
L. SONNEBORN SONS, INC.  
88 Lexington Avenue • New York 16, N.Y.  
REFINERIES: Petrolia and Franklin, Pa. • PLANT: Nutley, N.J.

In the Southwest: Sonneborn Bros., Dallas, Texas

  
Check the wires on every job

**Wirey Joe**  
AUTOMOTIVE CABLE  
Manufactured by  
THE CRESCENT COMPANY, Inc.  
Pawtucket, Rhode Island

Where Secure Seals Are Vital

**VICTOR**  
GASKETS, OIL SEALS  
GREASE RETAINERS

## NSPA Drafts Program At Chicago Session

New plans for services and activities that will assure continuing progress in automotive maintenance production and distribution were developed by officers, directors and committeemen of the National Standard Parts Association at a four-day annual executive summer conference held at the Hotel Sherman, Chicago, held recently.

Included on the conference schedule were meetings of the Membership, Marketing Research, Post-War Planning, and International Trade committees. There also were meetings of the Finance Committee and three standing product group committees in addition to the regular mid-summer sessions of the wholesaler and manufacturer boards of governors, and the board of directors. Eleven separate meetings were held.

In the divisional board meetings, some concern was expressed by both wholesaler and manufacturer directors over the present condition of jobber inventories. The need of readjusting orders to prevent accumulation of excess stocks is being strongly emphasized in bulletins to the association's wholesaler members. Also discussed by the NSPA directors and committeemen was the problem created by war surpluses and the steps the association is taking to find a satisfactory solution.

Discussions of the association's product group committees dealt largely with improved methods of stocking, displaying, servicing and selling replacement parts, equipment, supplies and accessories.

The need for a definite program in connection with employment and training of returning veterans was considered by the Marketing Research Committee and plans were developed for association effort in that important direction.

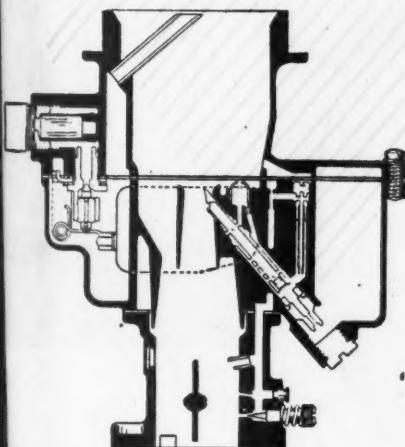


"It's a handy little accessory for quieting back seat drivers!"

# Genuine STROMBERG PARTS



a complete Stromberg carburetor  
overhaul job—in one package!



Everything you need to make Stromberg\* carburetors perform like new again is available in one complete parts kit. This enables you to do every Stromberg overhaul job *right*—with genuine Bendix-Stromberg parts right at your fingertips.

It's handy, saves time, and makes a good impression on the customer. So make sure you have plenty of these Stromberg kits in stock. If not, just call your local jobber or Bendix-Stromberg distributor.

*Listen to "MEN OF VISION" Sundays 7 P. M. E. W. T. CBS*

**BENDIX PRODUCTS DIVISION • BENDIX AVIATION CORPORATION**  
South Bend 20, Indiana



nip misalignment troubles in the bud with

## BEAR DRIVE-OVER



# Alignment Gauge!

## No Other Check-Up Like This!

Get One for Your Shop and Urge Fleet Operators  
to install in their service garages!

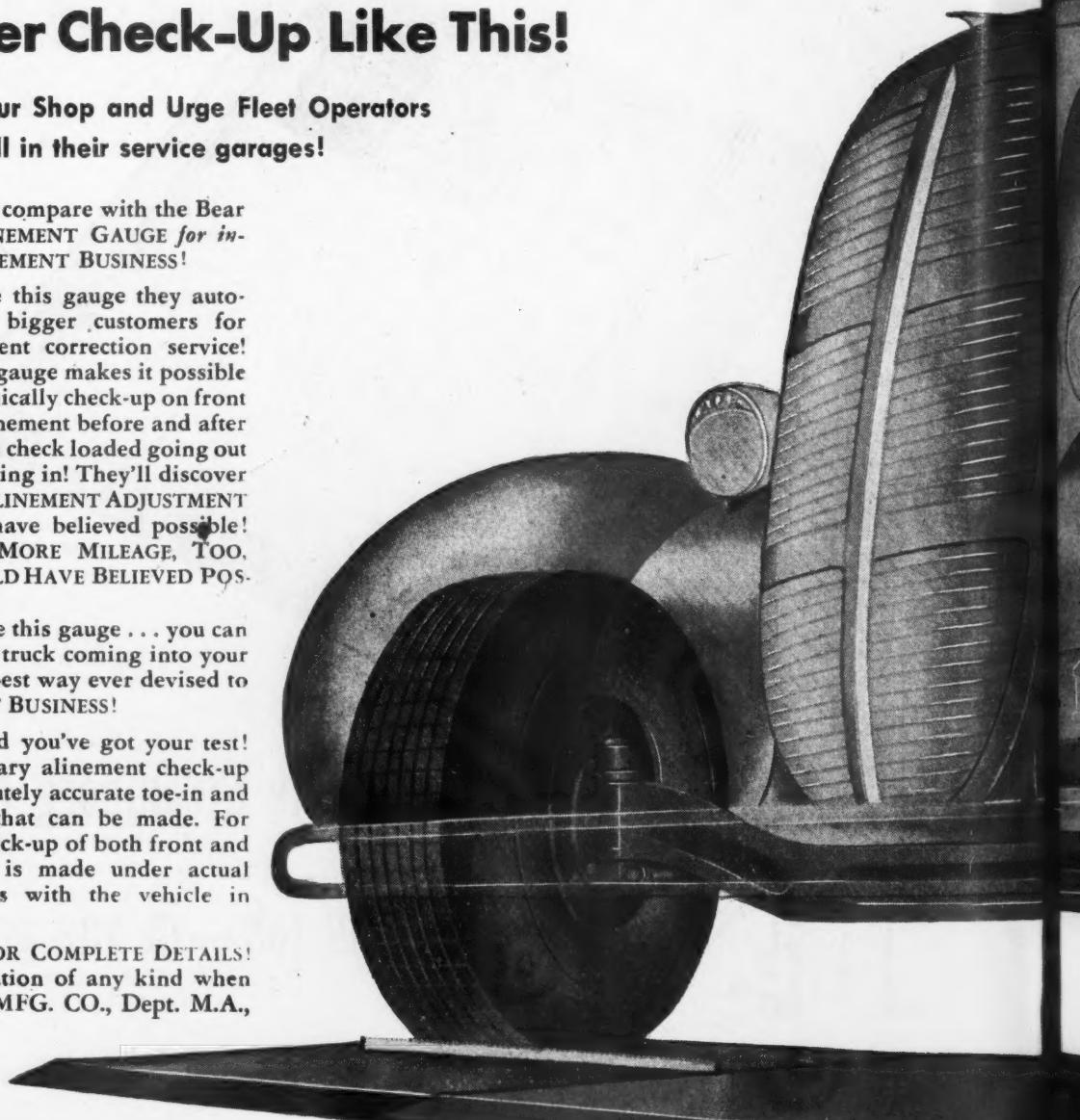
There's nothing to compare with the Bear  
DRIVE-OVER ALIGNMENT GAUGE for *increasing* your ALIGNMENT BUSINESS!

When fleets have this gauge they automatically become bigger customers for your Bear alignment correction service! For this automatic gauge makes it possible for fleets to economically check-up on front and rear wheel alignment before and after each trip! They can check loaded going out . . . and empty coming in! They'll discover MORE NEED FOR ALIGNMENT ADJUSTMENT than they would have believed possible! And they'll GET MORE MILEAGE, TOO, THAN THEY WOULD HAVE BELIEVED POSSIBLE!

When YOU have this gauge . . . you can check every car or truck coming into your shop! That is the best way ever devised to BUILD ALIGNMENT BUSINESS!

DRIVE-OVER and you've got your test! Not just an ordinary alignment check-up but the only absolutely accurate toe-in and toe-out check-up that can be made. For this is the only check-up of both front and rear wheels that is made under actual driving conditions with the vehicle in motion!

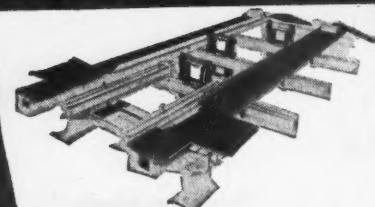
SEND TODAY FOR COMPLETE DETAILS! No cost or obligation of any kind when you write BEAR MFG. CO., Dept. M.A., Rock Island, Ill.



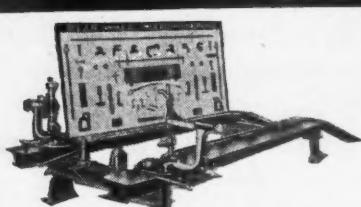
HEART of TIRE and Truck Conservation is

# BEAR

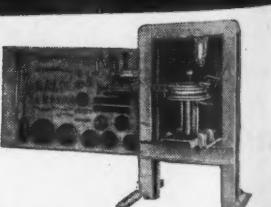
WHEEL ALIGNMENT and DY-NAMIC BALANCING!



FRAME STRAIGHTENERS...

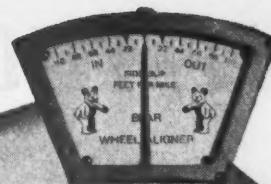


WHEEL ALINERS...

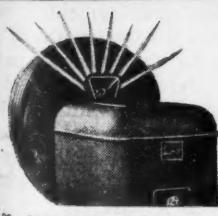


WHEEL STRAIGHTENERS...

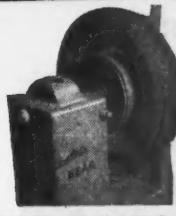
Dial on drive-over side is easily visible to driver; shows exact condition of alignment and indicates amount of side-scuff per mile.



1121



DY-NAMIC BALANCERS...



HEAVY DUTY DY-NAMIC BALANCERS...



SAFETY TEST EQUIPMENT...

# PASS the AMMUNITION

Present day motors were not designed to use low octane war-time fuels. Age, carbon accumulations and oftentimes neglect, make them even more inefficient . . . cause a waste of precious gasoline supply which even increased gasoline rations will not overcome.



America's Number One Ammunition in the fight against low mileage and poor operating economy is

**"Nu-Power"**  
Increases Motor Efficiency  
MORE MILEAGE  
PEP and POWER

Proven in Hundreds of Thousands of Motors in the United States and Canada.

NU-POWER is the answer to our motoring problems. It keeps motors and spark plugs clearer, cuts operating costs, gives smoother and better operation. NU-POWER restores that former pep and power to cars, trucks and buses . . . keeps them efficient to meet the job ahead. Truly, NU-POWER is ammunition in today's war to keep our equipment running right.

There is only One NU-POWER—Refuse Substitutes.

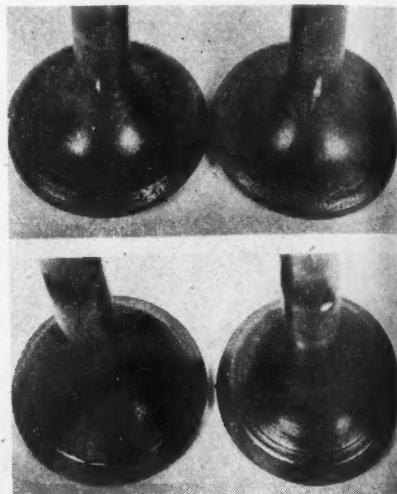
GET NU-POWER FROM YOUR JOBBER.



RADIATOR SPECIALTY COMPANY OF CANADA, LTD., TORONTO 2,  
GOLDEN STATE RUBBER MILLS, LOS ANGELES 1, CALIF.

## Valve Facing Alloy

Following a period of more than two years of research, a new alloy for facing valves and valve seat inserts has been adopted by the Wilcox-Rich Div., Eaton Mfg. Co., 9771 French Rd., Detroit, Mich., and is now in regular production. "Eatonite," the new alloy, contains nickel, chromium, cobalt, and tungsten and is said to have superior wear resisting qualities at temperatures above 1000 deg F. Corrosion resistance is said to be equal to or superior to that of tool alloy at corresponding temperatures.



Wilcox-Rich engineers predict wide use of the new alloy in valves for aircraft engines and truck, tractor and bus engines where higher temperatures can be expected with new design for obtaining higher performance from anti-knock fuels, and where performance and maintenance are more important than first cost.

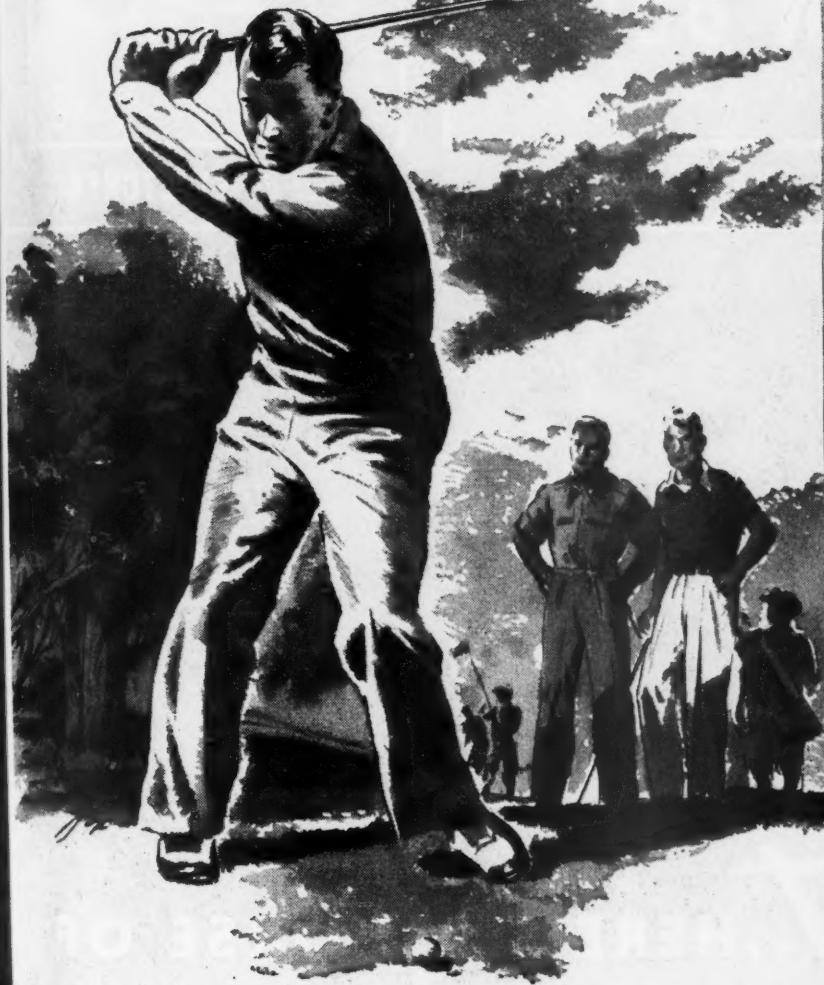
## Dealers Cautioned on Employing Servicemen

Dealers are cautioned that the hiring of soldiers and sailors for part-time work while they are on leave or furlough may, unless the employment is authorized by the military, cause the servicemen to lose military compensation provided for "line of service duty" in the event of injury or death.

The Navy has just issued an order practically preventing naval personnel from engaging in part-time or temporary employment. The Army has limited that employment to work which does not involve a direct personal service to the general public, such as truck drivers, bus and street car drivers, salesmen, waiters, etc.

In addition to the servicemen losing his government compensation for injury or death, the employer might be subject, in such a case, to the payment of compensation the same as for other employees.

For the  
long drive...



Every one of these United Motors lines will give your automotive service business an extra "drive" in the right direction. The parts and products they represent were engineered and built to meet the particular requirements of the automotive industry . . . are the original-equipment choice of America's leading automobile manufacturers.

Give your customers the best in automotive service by using original-equipment parts. You'll make good friends with the United Motors lines. See your United Motors Service distributor, or write us direct.

Special note to returning veterans: Make a United Motors Service franchise the foundation of a profitable automotive service business. Write today.

**BUY WAR BONDS**

**UNITED MOTORS SERVICE**

DIVISION OF GENERAL MOTORS CORPORATION  
GENERAL MOTORS BUILDING, DETROIT 2, MICHIGAN

AUGUST, 1945

When writing to advertisers please mention *Motor Age*

You'll  
"Hit the Ball"  
With These  
**UNITED MOTORS**  
**LINES**

**DELCO** Batteries

**INLITE** Brake Lining

**DELCO** Radio Parts

**HYATT** Roller Bearings

**DELCO** Auto Radios

**HARRISON** Heaters

**DELCO-REMY** Starting,  
Lighting and Ignition

**NEW DEPARTURE**  
Ball Bearings

**DELCO** Shock Absorbers

**HARRISON** Thermostats

**GUIDE** Lamps

**AC** Fuel Pumps, Gauges  
and Speedometers

**KLAXON** Horns

**DELCO** Home Radios

**HARRISON** Radiators

**DELCO** Hydraulic Brakes

Available everywhere through  
United Motors distributors



# THE LIFE STORY OF A FAN BELT



1 *First it STRETCHES*

*But...* HERE'S A HORSE OF

## Thermoid

**THERMODIZED Pre-stretched FAN BELTS**

Join the thousands of dealers who have found increased sales and profits with Thermoid—and extra profits because of the Thermoid Sales Reward Premium Plan. Ask your jobber about the Thermoid Fan Belt Program, or write to us. THERMOID CO., TRENTON, NEW JERSEY.





2 Then it SLIPS



3 Then it WEARS



4 Then it FAILS

A Thermod Fan Belt was removed from a Buick, and the weight of a horse suspended from it. When put back on the car, the belt performed perfectly at the same adjustment! That's convincing proof of the advantages of Thermodized Pre-Stretching.

A DIFFERENT

COLOR

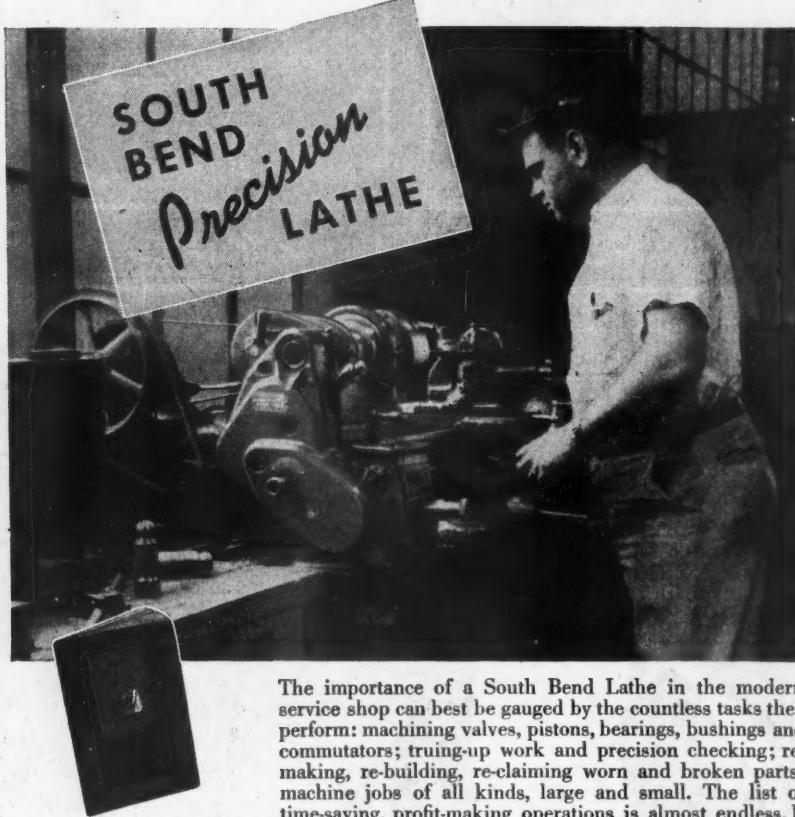


M  
Y

AUGUST, 1945

When writing to advertisers please mention Motor Age

# AN IMPORTANT TOOL IN ANY SERVICE SHOP—



#### HOW TO RUN A LATHE

A 128-page book on lathe operation and care. Size 5 1/2" x 8". Send 25c in U.S. stamps for your copy.



**SOUTH BEND LATHE WORKS**  
450 EAST MADISON STREET • SOUTH BEND 22, INDIANA  
LATHE BUILDERS FOR 38 YEARS

The importance of a South Bend Lathe in the modern service shop can best be gauged by the countless tasks they perform: machining valves, pistons, bearings, bushings and commutators; truing-up work and precision checking; remaking, re-building, re-claiming worn and broken parts; machine jobs of all kinds, large and small. The list of time-saving, profit-making operations is almost endless. It is an indispensable tool especially in times when parts are scarce and must sometimes be made of materials at hand.

South Bend Lathes are made in five sizes, 9" to 16" swings. Write for Catalog 100-D, stating size of lathe in which you are interested.

**SAFE**  
and  
SPEAKER  
QUALITY

**PERMANENT  
Vulcanized  
TIRE & TUBE REPAIRS**  
for natural or synthetic rubber.  
J. W. SPEAKER CORPORATION  
Milwaukee 12, Wisconsin

**FOR  
WARTIME LUBRICATION**

... YOU NEED  
AND CAN STILL GET

**★ DOOR-EASE**  
STAINLESS STICK LUBRICANT  
DRIPLESS OIL

**★ RUGLYDE**  
RUBBER LUBRICANT  
from leading Jobbers

AMERICAN GREASE STICK CO.  
MUSKEGON, MICHIGAN

## Dealer Members Named To Advisory Council

L. W. Slack, vice president and general sales manager of the Packard Motor Car Company, recently announced selection of dealers to replace two members of the company's dealer advisory council whose terms expired at the recent quarterly meeting.

Terms of service on the council, whose eight dealer members from all sections of the country meet quarterly for open discussions with factory executives, rotate and two members are replaced every six months.

New dealer members named were Paul R. Seeman, of the Turner Automobile Co., Uniontown, Pa., and E. B. Libbey, of Packard New Rochelle, Inc., New Rochelle, N. Y.

The new members replace E. B. Moon, Wichita, Kans., and A. J. Toner, Fitchburg, Mass.

## Sealing Compound

A flexible and elastic compound for sealing windshields and backlights of passenger cars has been developed by The Dolphin Paint & Varnish Co., 914 Champlain St., Toledo 3, Ohio, and is to be marketed as No. 3578 Dolfinite Black Windshield and Backlight Sealer.

Proper set-up and drying of outer surface prevents smearing of glass and frame. It is black in color to match rubber channels and may be applied in ribbon form to the channels by either hand or air pressure gun. It has immediate adhesion and does not sag, ooze, nor soften rubber. This material is not affected by oven heat, it is stated, and provides a leak-proof installation with minimum labor.

Further details on No. 3578 Dolfinite Black Windshield and Backlight Sealer and a copy of the new Dolfinite catalog of Automotive sealers, compounds and cements, may be had by writing the manufacturer.





*This advertisement is one of a series on new or improved Thompson products that will speed postwar progress—automotive, aeronautical and industrial.*

## A Life Saver for Fighter Pilots

*becomes a Power Booster for Cars and Trucks*

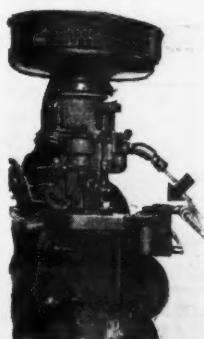
MANY A PILOT has lived to fight another day because of a power-boosting device on his plane which gave him an extra burst of speed to get out of a tight spot.

This surge of extra power comes from an injector that shoots a mist of coldwater into the engine.

The new Thompson VITAMETER applies this same aircraft injection principle to automotive engines, and is ready for postwar cars, trucks and buses—old and new.

The VITAMETER, on an automobile, has the super-charging effect of stepping up the gasoline 12 to 15

octane numbers. It kills "ping" on steep grades and under heavy load. Bolted to the carburetor flange, it automatically meters a special cooling mixture, VITOL, into the fuel charge *only when needed*. This is approximately 2% of the operating time of a passenger car and somewhat higher for trucks and other heavy-duty vehicles. VITOL softens harmful hard-carbon and keeps the inside of the engine cleaner. The car owner who has a VITAMETER after the war will save its cost many times over. Fleet operators will save much more, per vehicle.



### THE THOMPSON VITAMETER

The VITAMETER is but one of many new or improved products that Thompson engineers have ready for postwar automotive, aircraft, railway, mining and industrial markets. Meanwhile, Production for Victory is commanding the energies of Thompson men and women in six cities.

*Keep Close  
to Your*

**Thompson**  **Products** *Jobber*

CLEVELAND • DETROIT • LOS ANGELES

## CASH IN ON THIS NATIONAL ADVERTISING

WARNER  
COOLING SYSTEM  
COMPOUNDS  
are advertised  
regularly in  
Collier's



WARNER-PATTERSON COMPANY  
920 SOUTH MICHIGAN AVENUE, CHICAGO 5, ILL.

WARNER SERVICE CLEANER  
...extra strength for trucks  
...heavy motors or badly  
neglected cars. Fast, non-  
poisonous.  
WARNER LIQUID SOLDER  
repairs leaks in any part  
of cooling system quickly,  
without mechanical aid.



# WARNER

COOLING SYSTEM  
COMPOUNDS

STANDARD OF PROTECTION

Copyright 1946, Warner-Patterson Co.

A MUFFLER IS MORE THAN A SILENCER  
GUARD CUSTOMERS AGAINST  
CARBON MONOXIDE

**MERIT**  
**MUFFLERS**

BASCA MANUFACTURING COMPANY, INC.  
Indianapolis 1, Indiana  
MUFFLERS • EXHAUST PIPES • TAIL PIPES

**FITZGERALD**  
GASKET CRAFTSMEN SINCE 1906  
**GASKETS**

\* The complete line  
that completely satisfies

The Fitzgerald Manufacturing Company  
Torrington, Conn.

## "Triple Damages"

### Hard To Get

PLUCKING the golden fruit of "triple damages," under the antitrust laws, is not proving the easy money source a few disgruntled automobile dealers have been led to believe it to be. Recent efforts of two former General Motors dealers to thus penalize the corporation three-fold for fancied business discriminations have twice failed in the federal courts. In both of these suits plaintiffs' claims were rejected, one a directed verdict by the court, the other by jury decision.

Prospects of collecting fabulous damage judgments are sometimes dangled before the eyes of dealers, known to be nursing resentments and grudges against their present or past employing parent automobile companies. Actual or fancied grievances are utilized as basic causes for court actions for triple damages under existing antitrust laws, particularly where the prospective defendant has been held in court to have at some time or another violated such laws.

Back in 1939 the Big Three of the industry were cited under the Sherman Antitrust Act for alleged trade restraints arising from charges that dealers were being compelled to finance automobile sales through finance companies of the home offices choosing. It was charged that dealers were subjected to business discriminations because they failed to utilize the financing facilities favored by the home office. The charges were submitted to a federal grand jury which returned indictments against the Ford Motor Company, Chrysler Corporation, and General Motors Corporation and certain executives of each company. Ford and Chrysler accepted consent decrees but General Motors elected to stand trial.

After several weeks of testimony, a jury brought in a unique verdict, finding the individual defendants not guilty but holding that the corporation and its affiliates had in some unspecified manner violated the Sherman Act. The Corporations paid nominal fines, but the door was apparently opened to individual suits by plaintiffs who might claim business losses arising as a result of the corporation's alleged illegal conduct under the Act.

The suits which have been tried have undoubtedly proved tedious in preparation and extremely expensive to maintain. Because questions of principle are involved, the defendant corporation usually spares no effort to prove that dealers have not been subjected to discriminatory business practices as a result of their selection of a finance company. Plaintiffs of necessity have had to retain costly arrays of legal counsel, produce in court representative witnesses and to bear

(Continued on page 116)

# Look what's heading your way!

A hint of 1946 Hudson

style... caught by the

camera of John Paul

Pennebaker, inter-

nationally famous photographer



Before long, the distinctive Hudson Triangle—in a new dress for a new day—will be a familiar sight on America's streets and highways.

It will identify the finest Sixes and Eights in Hudson's 36-year history—product of a seasoned organization, famous for the progressive engineering that has pioneered scores of important automotive "firsts" in the past.

These cars will be built by a company that is rich in experience, competitively alert, confident of its future.

They will come from modern plants which, for the past four years, have been devoted to large-scale production on exacting war assignments. Plants geared to volume—combining high-precision workmanship with low-cost manufacture.

These 1946 Hudsons will bring many surprises—in style, fittings and appointments. They will uphold the Hudson tradition of superlative performance, endurance and reliability.

Hudson will have the product, the organization, the marketing program, to win a substantially larger share of the industry's total sales in the years ahead.

Watch for the cars that wear the Hudson Triangle.

# HUDSON

HUDSON MOTOR CAR COMPANY, DETROIT 14, MICH.



# US AXLES

25 years of pioneering  
stand behind us. The  
future looks good!

**THE U. S. AXLE CO., INC.,  
POTTSTOWN, PA., U. S. A.**

Make Big Profits on Small Investment in

**SHURHIT  
IGNITION  
PARTS**

Ask your Shurhit jobber or write us for details on General Ignition Assortments of fast-moving parts...Contact Points...Condensers...Rotors...Caps...Coils...Switches, etc.

**SHURHIT PRODUCTS, INC.**  
Waukegan, Ill.

# SOAX

AUTOMOTIVE and AVIATION  
CHEMICALS

**E. A. GERLACH CO.**  
PHILA. 40, PA., U. S. A.

## Parts Valued at Five Million Up for Sale

Approximately \$5,000,000 worth of surplus automotive parts will be sold in eight of eleven regions of the Office of Surplus Property, Department of Commerce, "Spot Sales" beginning Aug. 6 and through Aug. 27. This is the largest stock of parts yet to be sold and is made up of Ford, Dodge, General Motors, Chrysler, Chevrolet, Plymouth and other standard truck and automobile parts. The parts are all new and a large quantity of them were purchased by the Army during the early days of the procurement program, before procurement was standardized.

Manufacturers, jobbers, distributors, dealers and service garages will be permitted to buy these parts.

Inspection of the parts may be made a week prior to the opening of the sale in each region. The parts will be displayed in accordance with the vehicle for which they were designed and according to assemblies.

For full particulars as to locations, bid forms, eligibility to buy and a detailed catalog showing description, lots, number of items, etc., interested buyers should get in touch with the Regional Office of Surplus Property, Department of Commerce, nearest the sale they wish to attend.

## "Triple Damages"

(Continued from page 114)

the trial bill of costs if decision is for the defendant.

In view of results of the first two suits, it would seem desirable for complainant dealers contemplating recourse to triple damage litigation to study and weigh carefully the factors and responsibilities of such action. The mere fact that a prior adjudication gives plaintiffs a statutory right to sue does not necessarily mean that such suits cannot be successfully defended. Legal advice regarding suits for triple damages, particularly where based on expectation of a percentage share of any award obtained, should be carefully appraised in view of the difficulties and expense inherent in litigation of this type.



"Come, come, Miss Tweedy, have a seat!"



## THERE'S BEEN A BIG CHANGE

★ It takes more than brawny backs and gravel-bed wagons to handle today's big excavating jobs. It takes modern heavy-duty equipment.

It takes heavy-duty bearings, too. And the Tyson "All-Rolls" Bearings fill the bill. Tyson has 30% more

load-carrying rollers than ordinary tapered roller bearings. Extra rollers mean increased capacity . . . longer bearing life . . . less maintenance cost.

On rugged assignments, where long, hard service is daily routine—depend on Tyson.

ARMED  
FOR  
THE  
Navy  
TYSON BEARING CORPORATION • MASSILLON, OHIO

COUNT THE ROLLS • THE ROLLS COUNT

# TYSON



THE LAST WORD IN ANTI-FRICTION ENGINEERING

## De Soto Dealers Expand Facilities

De Soto-Plymouth dealers throughout the country are expanding their facilities by approximately 5,000,000 square feet to handle expected increases in new car and service business after the war, it was announced by J. B. Wagstaff, general sales manager of the De Soto Division of Chrysler Corp.

Wagstaff reported that more than 900 De Soto-Plymouth dealers have purchased or built new buildings, made major additions to their building or have made definite commit-

ments for construction of new buildings.

Highlights of the dealer survey made by Wagstaff indicate:

Thirty-five new buildings, totaling approximately 550,000 square feet have been completed;

Forty-two additions to existing buildings have been completed, containing approximately 300,000 square feet;

Twenty-eight new buildings, containing approximately 275,000 square feet, are now under construction;

Twenty-three additions to existing buildings are under construction, containing approximately 87,000 square feet;

One hundred and seventy-seven buildings, to contain approximately 2,100,000 square feet, are planned, but not yet started;

One hundred and fifty-four additions to existing buildings are planned but not yet started. These will contain approximately 695,000 square feet.

## Carbon Remover

CARBO-BLITZ, a new type carbon remover, is non-flammable, non-toxic and non-injurious to the worker or the work. It is used cold, in any container and is entirely safe for all types of metals and alloys, the maker states.

Tests on identical carbonized pistons, both ferrous and non-ferrous, Diesel engine valves and other badly carbonized test pieces show that CARBO-BLITZ operates safely with no need for scraping or wire brushing and consequent danger of injury to surfaces. In other actual shop tests, deposits were completely cleaned in from 1 to 2 hours, it is claimed. CARBO-BLITZ compares favorably in price with other carbon removers and is sold in 5, 15 and 55 gallon containers. Manufacturer offers further details on request.

Manufactured by Phillips Chemical Co., 3465-32 Touhy Ave., Chicago 45, Ill.

## Ford Production Plans Discussed At Meeting

Plans for the 1946 Ford Mercury and Lincoln car and truck production and distribution program were discussed at Dearborn, Mich., recently by Ford Motor Company executives, regional and branch managers, assistants and branch plant superintendents.

The meetings opened in the Ford Rotunda with a talk by Mr. J. R. Davis, director of sales and advertising.

Mr. Davis indicated that the post-war line of Ford, Mercury and Lincoln automobiles would be greatly expanded to provide models and body styles to cover every price field from the lowest to the finest in style and performance in the automotive industry.

The meeting was highlighted by a luncheon address from Mr. Henry Ford II. Mr. Ford covered the trend of the automotive business for the past 10 years and projected in detail the engineering, manufacturing and distribution plans of the company that eventually will provide thousands of additional jobs.

He outlined the company's proposed 150 million dollar expansion program, designed to step up Ford's share in the automotive business; emphasizing, however, that the company still has a war job to do.

## THERE IS A Knock-Out JOBBER NEAR YOU!

**Knock-Out**

**DRILL CHUCKS**

*are doing an ideal job on*

**SMALL ELECTRIC DRILLS**

**HEAVY DUTY DRILLS**

**DRILL PRESSES**

**RADIAL DRILLS**

**TURRET LATHES**

**ENGINE LATHES**

*and wherever good Chucks are needed.*

**They're Keyless**

**K. O. LEE CO.**  
ABERDEEN, SOUTH DAKOTA

Please send your NEW  
DRILL CHUCK BOOKLET No. 5-85

NAME. \_\_\_\_\_

STREET. \_\_\_\_\_

CITY. \_\_\_\_\_ STATE. \_\_\_\_\_

COMPANY. \_\_\_\_\_

When writing to advertisers please mention Motor Age



BUY MORE WAR BONDS

SMASH HIGHWAY  
TRADE BARRIERS  
Demand  
reasonable  
state laws!

## Banked-up demand for new trucks offers great profit opportunity

Automotive merchants face the greatest profit opportunity of all time. Between two and three million new trucks must be supplied to meet critical transportation needs. Payoff will come when the industry hits volume peacetime production.

Will you be ready to cash in on the tremendous opportunity for truck sales and service? Automotive merchants with the Reo franchise will be in a most fortunate position . . . with a product of typical Reo dependability . . . and with a franchise which dealers themselves helped to write. This combination assures a most satisfactory and profitable dealer-factory relationship.

Get ready to make money with Reo; write for Reo's "Big 7" Questionnaire today.

REO MOTORS, INC., LANSING 20, MICHIGAN  
Factory Branches, Distributors and Dealers in Principal Cities



# REO

1904 • AMERICA'S TOUGHEST TRUCK • 1945

# VITALIC

fan belts  
and  
radiator  
hose

VITALIC  
TOUGHER THAN  
ELEPHANT HIDE

The Trouble Proof  
"V" BELT



## The EXTRA FACTOR

in every Vitalic product is the extra experience of the man who makes it. That Continental has done a good job producing war materials is evidenced by the Army-Navy "E" Flag, with three Stars, for sustained excellence in production. ★ Production of Vitalic fan belts and radiator hose is limited only by war activities, and Vitalic jobbers are receiving their full share of war-time production.

SEE OUR CATALOG IN SWEET'S

### BRANCHES

Baltimore, Md.	Cleveland, Ohio	Greensboro, N. C.	Lutz, Fla.	Pittsburgh, Pa.
Boston, Mass.	Dallas, Texas	Hartford, Conn.	Memphis, Tenn.	Rochester, N. Y.
Buffalo, N. Y.	Dayton, Ohio	Indianapolis, Ind.	Milwaukee, Wis.	St. Louis, Mo.
Chicago, Ill.	Detroit, Mich.	Kansas City, Mo.	New York, N. Y.	San Francisco, Cal.
Cincinnati, Ohio	Evansville, Ind.	Los Angeles, Cal.	Philadelphia, Pa.	Syracuse, N. Y.



## CONTINENTAL RUBBER WORKS

ERIE, PENNSYLVANIA, U. S. A.

### Jeep Production Figures Announced

The civilian version of the Jeep is to be produced by Willys-Overland Motors, Inc., at the rate of 3,000 to 4,000 per month during the last half of 1945, with volume production scheduled to start in August, Charles E. Sorensen, President, announced. He said test models of the civilian Jeep now are being produced in small quantities.

His statement followed a meeting in Washington with the War Production Board at which time the motor industry was given an immediate go-ahead on truck manufacture and quotas were assigned to individual companies.

"Our production schedule for military Jeeps calls for a total of approximately 90,000 units running well into the fourth quarter of 1946," he said, "and our present authorization from the War Production Board is for approximately 20,000 civilian Jeeps in the remainder of 1945. This is in addition to approval for civilian automobiles for which authorization has been released by the War Production Board."

Mr. Sorensen said it was somewhat difficult to classify the civilian Jeep in order to establish a quota since it combines for the first time in history the basic functions of the truck, passenger car, tractor and mobile power unit. "It is in reality a new and revolutionary type of motor vehicle with no prewar precedent," he said.

### General Motors To Build 95,000 Cars

General Motors expects to build about 95,000 cars during the last part of this year under the national quota of 214,000 automobiles set by WPB, according to Alfred P. Sloan, chairman. At the Corporation's annual meeting, Sloan warned that the public should not expect a \$500 car, but added that the new light Chevrolet would be priced as low as possible.

It will be at least two years before any radically new streamlined models will appear on the market, he said, since government authorization to use planning engineers and technicians on new design—has come only in recent weeks. He predicted that when really new models appear they will make more use than in the past of light metals, such as aluminum and magnesium.

### Folder on Products

Wagner Electric Corp., 6496 Plymouth Ave., St. Louis 14, Mo., has recently issued a 16-page folder (form GU-86) describing briefly its entire line of electrical and automotive products: motors, transformers, industrial brakes and controls, hydraulic brakes, air brakes, tachographs, NoRoL, brake lining, and brake-service tools.

# NEW!

## AIR PRESSURE POWER FOR HEAVY-DUTY WINDSHIELD WIPERS

Immediate  
Delivery

...or for trucks,  
buses, without  
air pressure...

*the New*  
**Heavy-Duty**  
**TRICO VACUUM**  
**MOTOR**



For more than 20 years, powerful, air-pressure operated Trico Windshield Wipers... for all vehicles with air brakes or other air supply... have provided continuous wiper operation under *all* driving conditions.

Now Trico introduces the new and still more efficient FPS Series of air wipers. The new FPS retains all of the operating advantages of previous models PLUS many new improvements, resulting in *simplified installation*, longer life, greater economy and serviceability.

The new series is available either as complete wiper sets for new installations, or as motors only for service replacements. Arms, blades and variable shaft lengths provide combinations which meet every specification requirement.

★ ★ ★

TRICO warehouses, jobbers, parts suppliers, throughout the United States and Canada can give you detailed information and immediate delivery.



**TRICO PRODUCTS CORPORATION**  
BUFFALO 3, NEW YORK

## Synthetic Rubber to Dominate Tire Production

No more tires will be manufactured entirely of natural rubber, W. James Sears, deputy director of the War Production Board's Rubber Bureau, reported as additional steps to conserve America's dwindling stockpile of natural rubber were announced.

Use of synthetic rubber in the manufacture of all truck tires and bogie wheel tires for tanks is specified in Amendment 1 to Appendix II of the Rubber Order R-1, effective

July 9. The appendix includes a chart giving the construction authorized for all tires except airplane and bicycle tires. The amendment affects certain sizes of truck, bus and implement (off the road) tires and bogie, idler and support-roller tires for tanks and half-tracks.

"Every pound of natural rubber must be reserved for products that cannot be made of adequate quality by using synthetic rubber," Mr. Sears said. "Because the rubber manufacturing industry has already been largely converted to synthetic rubber, additional conversions are necessarily

small but they will continue to be made whenever possible."

The amendment is expected to save 1,300 long tons of natural rubber a year, Mr. Sears said.

## Substitute Fuels Tested

A gain of one-fourth in power may be expected if certain hydro-carbons, such as ethyl alcohol, diethyl ether, acetone, and butanol are blended, or in some cases are used "straight," to form a fuel to be substituted for gasoline in a properly designed internal-combustion engine.

The thermal efficiency of such an engine will be about 36 per cent, as compared with 28 per cent for gasoline. These conclusions of Donald B. Brooks of the National Bureau of Standards are based on tests of substitute motor fuels conducted in a precision single-cylinder variable compression engine in the Bureau's automotive laboratory at the request of FEA.

VALVOLINE . . . THE ORIGINAL PENNSYLVANIA OIL



## Customers Who Look Like This . . .

... are mighty important these days. With her husband overseas, it's her job to see that the family car is kept rolling. She's no mechanic, but she IS a smart shopper — you're talking her own language when you talk about

VALVOLINE, so good it can be *unconditionally guaranteed*. Recommend a Fall changeover to Valvoline. And when her husband returns home, his car's motor will talk *his language* and keep him coming back to you for years.

# VALVOLINE

MOTOR OIL

COSTS MORE TO MAKE — COSTS LESS TO USE

Unconditionally Guaranteed

VALVOLINE OIL COMPANY

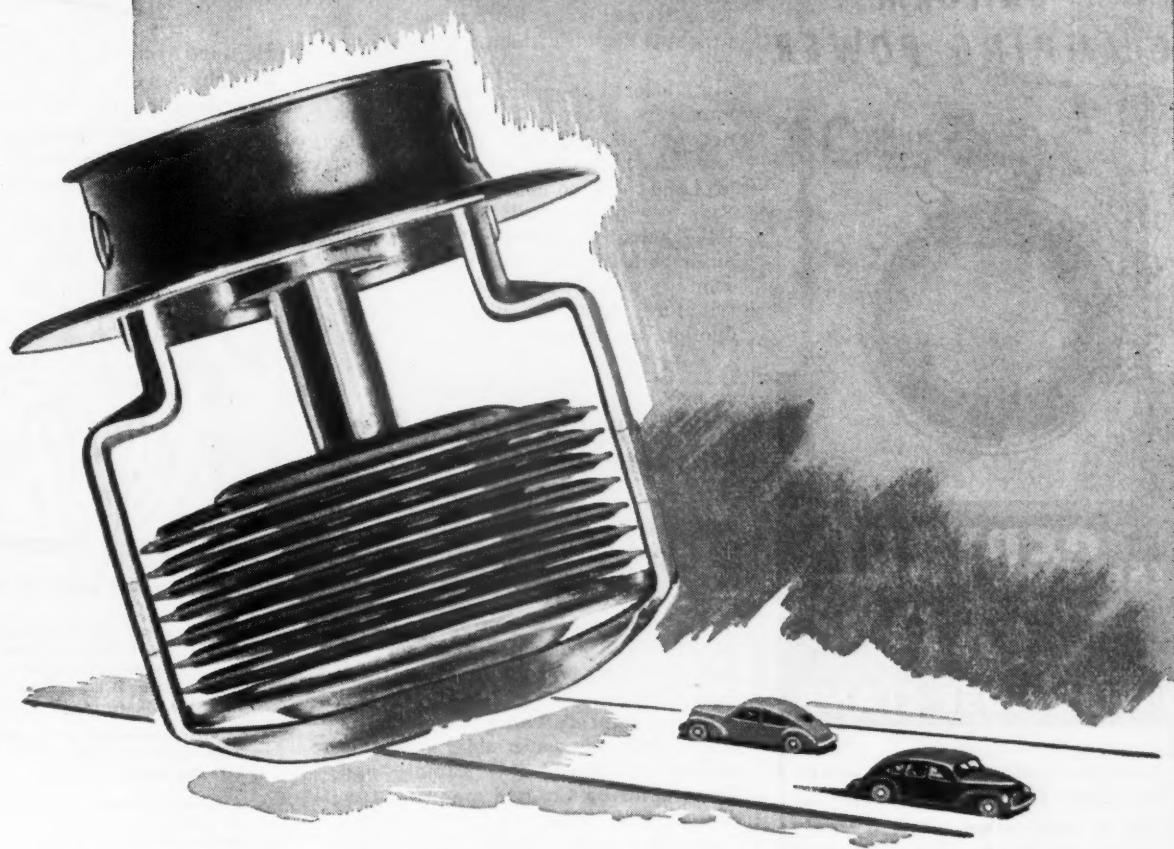
431 Main Street, Dept. 12-H, Cincinnati 2, Ohio

New York - Atlanta - Pittsburgh - Chicago - Detroit - Los Angeles - Vancouver, B. C. - Washington, D. C.  
Refinery at Butler, Pa.



"Of course I know you're right, Hugo. I just want to see if the factory manual is!"

# HARRISON THERMOSTATS



## ENGINEERED FOR THE JOB—BUILT FOR LONG LIFE

Efficient and dependable, Harrison thermostats have been original equipment on many leading makes of cars, trucks and buses for many years. Scientifically designed to meet the particular requirements of temperature control, Harrison thermostats hold engine temperatures within the range required for most efficient operation.

When cars come in for service, be sure to include the cooling system in your check-up. If the thermostat is damaged, worn out or otherwise inoperative, replace with a new Harrison thermostat.

# HARRISON

**HARRISON RADIATOR DIVISION**  
GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK  
KEEP BUYING MORE WAR BONDS

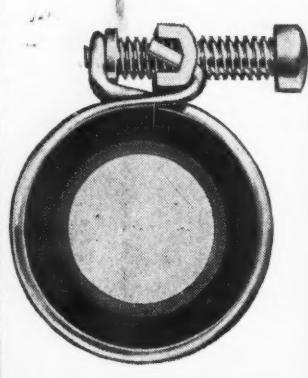
**HARRISON—A UNITED MOTORS LINE**



Harrison thermostats, complete radiators, radiator cores and tank parts are distributed nationally through United Motors Service.

**New!**

**A POWERFUL CLAMP  
with 360° of  
UNIFORM  
CLAMPING POWER**



**The CENTRAL  
"360"  
WIRE HOSE CLAMP**

No other preformed clamp equals the "360" for power, efficiency or ease of application. It is the only clamp which provides unlimited uniform clamping power in a perfect circle over the entire circumference of the hose. It is absolutely vibration-proof...tightens instantly . . . eliminates any possibility of leakage . . . has almost unlimited take-up, even on synthetic hose . . . guaranteed unconditionally...Costs no more than ordinary clamps!



It includes all radiator hose sizes.

**Send Today For FREE  
SAMPLE & BULLETIN No. 102**

**CENTRAL EQUIPMENT CO.**  
900 SO. WABASH AVE., CHICAGO 6, ILL.

**Two Zone Sales  
Managers Named**

New appointments as zone managers on the staff which will handle nationwide sales of Graham-Paige Motors automobile and farm implements were announced recently by E. Peerce Lake, general sales manager.

Edward McLeod and Robert Shekell were named zone managers for the Cincinnati and Pittsburgh areas, respectively.

Additional appointments of zone managers to supervise an anticipated network of 200 distributors will be announced shortly, and a dealer body of 1,500 is scheduled for the start of full production early in 1946, Mr. Lake said. An expected 350 to 400 automobiles a day will roll from assembly lines into the hands of distributors during the first year of production the company stated.

**Ober Appointed Tire Sales  
Manager of Inland Rubber**

V. E. Ober, of Cleveland, Ohio, has been appointed tire sales manager of the Inland Rubber Corp., William M. Collins, Jr., President, announced today.

For the past 12 years, Mr. Ober was southeastern sales manager for Mansfield Tire and Rubber Co., Mansfield, Ohio.

Inland Rubber, whose present plant is on Chicago's south side, is a subsidiary of Minnesota Mining and Manufacturing Co. and manufacturer of tire repair materials for the United States and Allied armies. It is building a new \$9,000,000 tire plant at Ottawa, Illinois, for the Defense Plant Corporation where it will manufacture critically-needed combat tires.

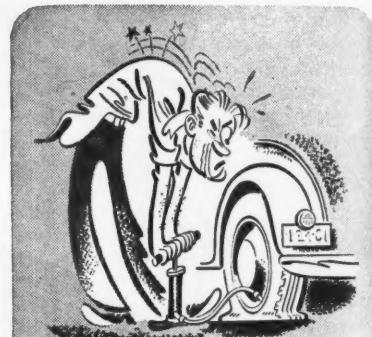
Bullet-sealing fuel cells are now protecting PT boats from fuel tank fires and explosions caused by enemy airplane strafing. Four cells are required by each PT boat. These cells are made almost entirely of synthetic materials and seal so quickly that an incendiary bullet penetrating a cell does not let in enough air to permit the gasoline to ignite.

**CLASSIFIED ADVERTISEMENT**

A REAL OPPORTUNITY for the right man acquainted with the automotive industry and with accounting knowledge to assist manager of successful firm which has served the automotive industry for over 25 years. Statement of availability required. Box 26, Motor Age, Chestnut & 56th Sts., Philadelphia 39, Pa.

**"Follow  
the  
Leader"**

Be sure your stock of Schrader airtight caps is complete! Advertisements like the one below, appearing in such leading national magazines as *American Weekly*, *Capper's Farmer*, *Collier's*, *Country*



**The long and short of it...**

Experts agree your tires must last longer...and underinflation ruins tires. It's not only how much air you put in, but how much stays in your tires that counts.

After you inflate your tires, seal each valve with an airtight Cap—screwed down finger-tight.

Schrader Caps are again available at your tire or service station, in the familiar red, white and blue box.



The sealing unit  
includes all standard  
Schrader Caps



**Get a set today  
and RIDE TOMORROW!**

Gentleman and *The Saturday Evening Post*, tell your customers that Schrader Caps are again available at their dealer's.

Tie in with these ads and see that every tire you service is sealed with Schrader airtight Caps.

Always "recap" the tire valves

**A. SCHRAIDER'S SON**

Division of Scovill Manufacturing Company,  
Incorporated,  
BROOKLYN 17, NEW YORK

# 60 GUARANTEED TIRE REPAIRS

A DAY!



## 3 Operators Maintain High Average with . . . 5 *INLAND* Vulcanizing Units

• Sam Burton, Inland Bonded Dealer in Plainfield, started with 1 Inland Unit and a small stock of Inland Quick-Cure Vulcanizing Sections. The repairs he made—and the business he did—with just 1 Unit, proved to him that Inland offered an extraordinary business-building, profit opportunity—with a big future. He bought 2 more units, but even these weren't sufficient to keep up with the demand for vulcanized sectional repairs made by Sam Burton the Inland way.

Today he and his 2 assistants keep 5 Inland presses busy turning out sectional repairs *guaranteed to last the life of the tire*.

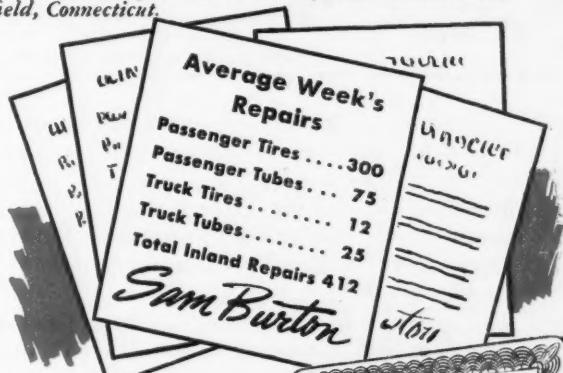
Sam Burton is only one of more than 12,000 Inland Dealers who have found that Inland's growing line of high quality *Permanent* and *Emergency* repair materials for tires and tubes of all sizes, is a sure-fire way to build top tire-repair reputations in their communities.

Inland offers you the same opportunity to make money in this essential business. Send the coupon for full details about Inland Equipment, Materials and methods today. No obligation, of course.



(Top Above) Operator shown preparing tire for vulcanizing in one of five Inland Vulcanizing Presses in Sam Burton's shop.

(Above) View of Sam Burton's busy Tire Service, Plainfield, Connecticut.



A typical recent week's record of the vulcanizing repair business Mr. Burton and his two helpers turn out on *Inland* equipment with *Inland* materials. Mold cost in continuous operation is less than \$3.00 each per month.



INLAND RUBBER COMPANY  
33 So. Clark St., Dept. MA-8, Chicago 3, Ill.

Please send me free information on how I can become an Inland Bonded Dealer.

Name.....

Address.....

Town.....

**INLAND**  
INLAND RUBBER CORPORATION  
Subsidiary of Minnesota Mining & Manufacturing Company  
Branches in thirteen principal cities  
TIRE MANUFACTURERS SINCE 1910

## Bendix Division Set To Deliver Starters

Production of starter drives needed in reconversion of America's automotive industry is under way here at Eclipse Machine division of Bendix Aviation Corporation, T. W. Tinkham, general manager, disclosed.

The division, a pioneer in the engine-starting field, expects to meet new original equipment needs of the automotive and other industries in stride, while carrying to completion its continuing war production responsibilities, Tinkham declared.

"To keep ahead of anticipated starter demand which will greatly exceed our pre-war output, we have set in motion plans for installation of new tooling and equipment and extensive plant re-arrangement to facilitate increased peacetime manufacturing efficiency and volume," the Bendix executive said, in disclosing the division's first reconversion stages.

Increased wartime applications for the standard and new models of the Bendix starter drive have required a continuous high level of starting equipment production in the Elmira plant for the past three years, it was pointed out. This has enabled the

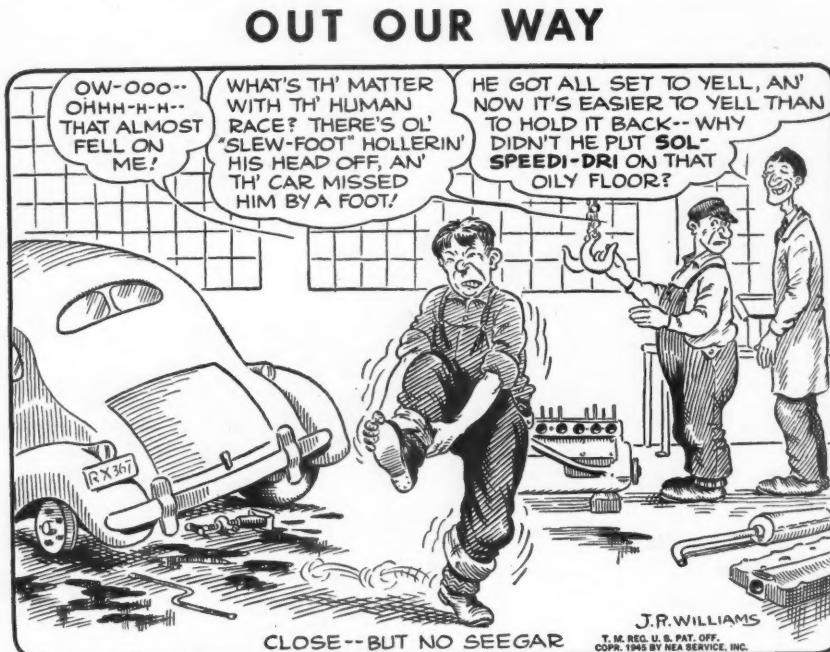
division to maintain its veteran production organization of personnel, a factor that will help hasten reconversion and output of peacetime models for early civilian automobiles and other engine applications, it was stated.

## U. S. Receiving Petroleum From Borneo Sources

As a result of the lend-lease and reverse lend-lease agreements between the Government of the Netherlands and the United States, our military authorities are already receiving petroleum under reverse lend-lease from the newly liberated island of Tarakan, lying off northeast Borneo, and from the Brunei area of Borneo proper, the Foreign Economic Administration announced. The amount obtained will be disclosed later by the military.

These agreements provide that the Netherlands will supply directly to our military authorities in the theatre of operations such critical materials as petroleum whenever military operations result in such materials becoming available. This means that arrangements already have been made for the United States to obtain other needed materials, such as rubber and tin when it is militarily possible.

One unique quality of the Borneo oil is that some of it can be used without refining on any oil-burning steamship, and there are many such ships in operation in the area, FEA said.



SOL-SPEEDI-DRI will cure greasy, oil-slick floors. In one plant where it was tried, the employees offered to pay for it themselves.

SOL-SPEEDI-DRI is a dry, granular material that soaks-up oil like a blotter. Just spread a thin layer in your garage, driveway, lubricitorium, or grease-pit, and it immediately furnishes a light-colored, non-skid floor-covering. Sweep it up with an ordinary broom, and the floor will be clean, dry, and safe.

It's the easy way to cut-down accidents from slips and falls, and to end the danger of fast-spreading fire. It works on all kinds of floors. No complicated, expensive machinery required. No extra manpower. No dangerous caustics, or inflammable solvents.

SOL-SPEEDI-DRI is stocked by all leading distributors. Call your distributor or attach your business card to this advertisement and mail it to us for a Free Sample.

**SUPPLIERS** East—Refiners Lubricating Co., New York 1, New York.  
Midwest & South—Waverly Petroleum Products Co., Philadelphia 6, Pa.  
West Coast—Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.

**SOL-SPEEDI-DRI**  
OIL AND GREASE ABSORBENT



**Original Equipment Quality!**



**• KING BOLT SETS**

**• SPRING SHACKLE SETS**

**• WATER PUMPS & KITS**

**• SHOCK LINKS**

... and other Fast Moving Items

**SOLD THRU JOBBERS!**

**AUTOMOTIVE MAN'G. CO., INC.**  
1050 W. HUBBARD ST. CHICAGO 12, ILL.

# Sealed beam lighting at its best *Guide*

## SEALED BEAM HEADLAMP UNITS

Guide Sealed Beam headlamp units incorporate the highest standards of safety. With them you can give your customers the added advantage of **DOUBLE PROTECTION . . . NO DIM-OUT—NO BLACK-OUT.**

### NO DIM-OUT

There is NO DIM-OUT with Guide Sealed Beam headlamp units. These rugged, metal-backed units are sealed against dirt, dust and traffic film . . . maintain high light output throughout the long life of the unit.

### NO BLACK-OUT

There is NO BLACK-OUT with Guide Sealed Beam headlamp units. *If a lens becomes cracked, breaking the "air seal," a separate bulb within the unit continues to provide safe lighting until the damaged unit can be replaced.*

*Fight on—BUY BONDS*

Let Safety Share the Ride—Replace with



Guide Sealed Beam replacement units and Guide lamp service parts are sold by United Motors Service distributors.



**BUILDER OF AUTOMOTIVE LIGHTING EQUIPMENT**



I No. T 690 Q M C Capacity 2½ Gals.



BRAKE PARTS  
BRAKE FLUID  
BRAKE TOOLS

## Now Available EIS HYDRAULIC BRAKE PRESSURE BLEEDER

The One Man Bleeder

BUILT to the same high standards for which all EIS Products are famous. Heavy steel construction; accurate, durable gauge; substantial fittings; safety air valve; automatic shut-off.

Bleeds up to 12 cars in one filling; flushes up to 8 cars in one filling. No wrenches needed to hook up except Chryslers. Three simple combination adaptors take care of practically all cars. Handy for filling hard-to-get-at Master Cylinders.

Order from your Jobber

EIS MANUFACTURING COMPANY  
MIDDLETOWN, CONN.

## New Appointments

D. E. Ahrens, general sales manager of Cadillac Motor Car Division, announced the appointment of Perry A. Lacy as Boston district manager for the division.

The Packard Motor Car Co. reported the appointment of John W. Raisbeck as manager of the sales division's business management department.

Two new zone managers for the Chicago and Detroit areas were named by the Graham-Paige Motors Corp. to supervise field distribution of cars and farm equipment. They are E. Dean Tebbetts, Detroit zone manager, and Maurice Henchey, Chicago zone manager. The announcement was made by E. Peerce Lake, general sales manager.

An extensive new line of plastic upholstery for civilian use which, for the first time, will provide designers and manufacturers with upholstery material that is both waterproof and flameproof, was announced by a rubber company. The upholstery will be made in a wide variety of colors and grains. According to tests, it will not be affected by perspiration, alcohol, gasoline, grease and can be cleaned with soap and water.

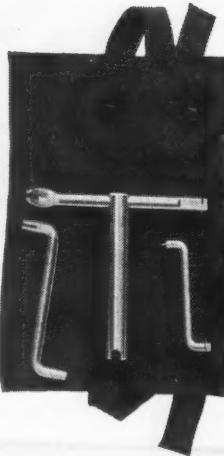
## THE INDISPENSABLE THREE

LANAGAN "TUNE-O-KIT" for fast, accurate motor-tuning. With that "ready-to-the-hand" perfection of design that LANAGAN knows how to contrive . . . and which real mechanics demand. In handy canvas pocket. Here's what it is:

(1) A tool for accurately aligning *Distributor Contact-Points*, both Delco-Remy and Autolite. (2) A tool for adjusting any type of *Voltage-Regulator* to a high degree of precision. (3) A contact-adjusting tool for *Ford V-8 Distributors* from the year 1937 on.

Made of high-quality, hardened steel, handsomely plated. Sold separate, if desired. But the three together make natural companion-pieces; and the handy kit keeps them together, just where they belong. See your jobber, or write direct.

Made by LANAGAN & HOKE . . . known everywhere for its line of quality testing instruments.



LANAGAN AND HOKE  
Philadelphia 44, Penna.

PRECISION AUTOMOTIVE TESTING EQUIPMENT

GIVE  
RUST!  
THE  
"BRUSH OFF"  
WITH  
METALPREP  
79-V



• Yes, literally brush it off; that's what you can do with Metalprep 79-V on your refinishing jobs. Assure a better paint finish. It's simple. Just BRUSH ON, SCRUB, WIPE OFF.

Ask your jobber or write for  
Bulletin 44-5.

JOBBERS: Add profits with Metalprep

NEILSON CHEMICAL CO.  
6568 Benson St., Detroit 7, Mich. • Windsor, Ont. • Los Angeles, Calif.



Of all the De Soto cars ever built, 7 out of 10 are still running

\* 8 out of 10 owners say, "De Soto is the most satisfactory car I ever owned"



OWNERS OF 1941 AND 1942 DE SOTO BY  
CHRYSLER CORPORATION

HERE'S A STORY  
THAT PROVES  
THERE'S A BIGGER  
FUTURE WITH

**De Soto**

THAT BIGGER FUTURE is built around two great cars—De Soto and Plymouth—both with all-important backlog of loyal owners. De Soto's advertising is telling its impressive owner satisfaction story to the more than 90% of all new car buyers who are the De Soto-Plymouth dealer's coming market. For facts about the De Soto Sales Agreement and sales areas available, write today to J. B. Wagstaff, General Sales Manager, De Soto Div. Chrysler Corp. Detroit, Mich.

# SPRAYIT

PAINT SPRAYING EQUIPMENT, AIR COMPRESSORS, SPRAY GUNS, PUMPS, AIR TOOLS, INSECTICIDE SPRAYERS, SANDERS, AND ALLIED FINISHING EQUIPMENT

# Elasco

ELECTRIC MOTORS, GENERATORS, VALVES, PUMPS, HYDRAULIC CYLINDERS AND CONTROLS FOR AIRCRAFT, AUTOMOTIVE AND OTHER INDUSTRIAL APPLICATIONS

Delivery dates on Electric Sprayit Company products will be announced just as soon as conditions permit. We wish we could give you this information immediately but find this impossible in that all reconversion progress must be guided by timely events. During the meantime we suggest that you contact your Jobber so that he can place your name among those who will be the first to receive shipments of these two fine lines. If your Jobber's name is not known, write us and we'll send this to you at once.



A NEW PRODUCT . . . with NEW SALES POWER

# PiB

## The Liquid Insulation!

### What Does PiB Do?

PiB helps prevent battery corrosion . . . fights top-surface shorts. It moisture-proofs ignition systems . . . seals worn insulation . . . helps start rain-stalled engines. PiB can be used on any gasoline engine or electric motor. One treatment means 6-month safety. Flows easily—penetrates—dries pliable—endures.

### When Can You Sell PiB?

Every motorist coming into your station is a ready prospect for PiB. When you lift the hood, point out his worn insulation. When you check his battery, show him the corrosion—and the danger of top-surface shorts. You'll make a profit on service you gave free before!

### What Sells PiB?

The customer's own car sells him the need of PiB. Cracked and worn insulation, battery corrosion, slow starting spell serious trouble to every motorist. Once you show him the effectiveness of PiB, he'll buy in a hurry . . . for PiB demonstrates its value!

Yes . . . here it is . . . a new product with sales power that really means greater profits. PiB, amazing liquid insulation, is new to the consumer market . . . but its effectiveness has already been proven by our Army and Navy on the invasion beaches!

For it is PiB, the new liquid insula-

tion, on the ignitions of jeeps and trucks that helps to keep them going through roaring surf without stalling. Now . . . PiB, the liquid insulation, is ready for distribution throughout the United States.

### How Do You Sell PiB?

You can sell a PiB treatment as part of your service (average price \$1.50) . . . or as part of a "package" sale, along with a crankcase change, lube job, and car wash. "Package" sales with PiB are real profit makers. And for home use, PiB is sold in 1-ounce and 4-ounce bottles.

BACKED BY  
ALL THE POWER OF  
THE U.S.I.  
ORGANIZATION!

### What's Your Profit on PiB?

PiB, when used for treatments on cars, brings you from \$35 to \$40 profit on an investment of \$5.40. Bottle sales at retail bring a big profit too.

### ... And Here's the Promotion Behind PiB!

Starting now, powerful PiB advertising will appear continuously in magazines like American Weekly and This Week—with millions of circulation. Also in mechanical magazines like Popular Science and Popular Mechanics . . . and in boating and sportsmen's magazines. Besides, you'll get a wide variety of promotion items for your use in your station.

U. S. Industrial Chemicals, Inc.  
60 East 42nd Street  
New York, N. Y.



\*\*\*\*\* ASSOCIATION



A new world is in the making. New ideas,  
new needs, new wants. Get ready now.

Manufacturers of the  
**CENTURY, RICHLAND,**  
DISTRIBUTED THRU

# M E A N S   E V E R Y T H I N G   \* \* \*

**A**T THIS MOMENT, new ambitions, awakened hopes, and living dreams fill men's hearts and minds to inspire the building of a better post-war future — a future in which free men may succeed, according to individual abilities, in independent enterprises of their own choosing.

The Jobber-to-Dealer way of distribution is a safeguard of this future of opportunity and freedom for the independent tire retailer. While independent wholesalers and independent tire retailers work and stand together, supporting each other, they need fear no designs for the control of tire distribution.

\*     \*     \*     \*     \*

**The Mansfield Tire & Rubber Company always has supported the independent Jobber-to-Dealer tire distribution plan. Through Mansfield's close association with America's leading and most progressive wholesalers, independent tire retailers now are assured of both a distribution policy and a tire selling program on which they can build with definite promise and with real security for the future.**

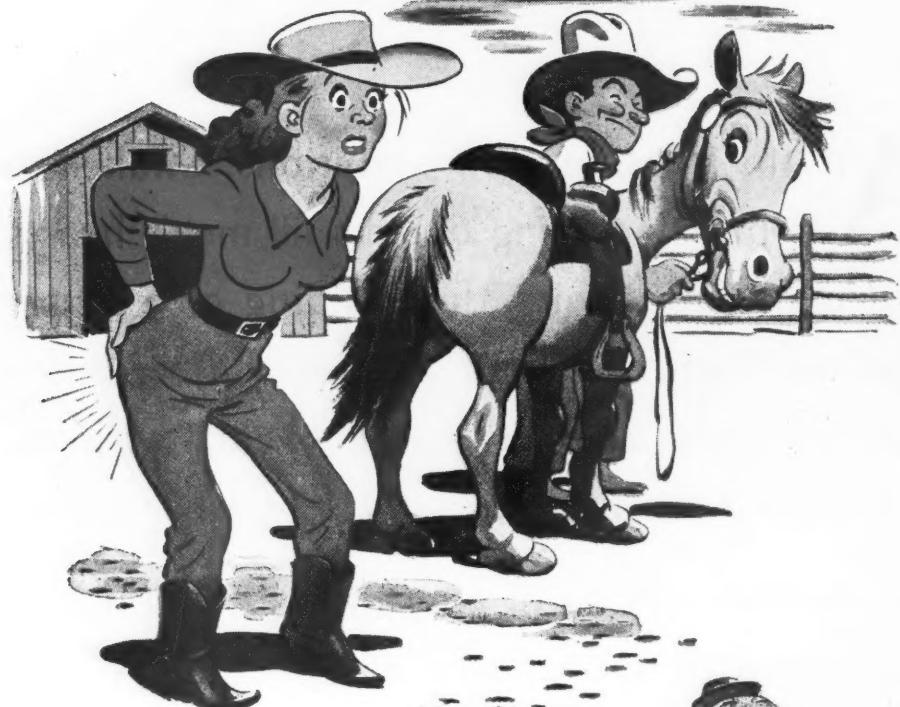
THE MANSFIELD TIRE & RUBBER CO. • MANSFIELD, OHIO



*Following Well Known Tires —*  
**MANSFIELD, UNITED**

WHOLESALE EXCLUSIVELY • National Tires

# Here's Where the Trouble Starts!



*And here's where  
Trouble Starts on an Oil Pumper*

Worn engine bearings not only cause obnoxious oil pumping, but endanger other hard-to-get moving parts inside the engine, because they throw needless extra loads on those parts.

Normally, engine connecting rod bearings meter correct lubrication to cylinders. When worn, they let excess oil reach combustion chambers. It burns to motor-fouling, power-stealing carbon on pistons, piston rings, valves and spark plugs. Even the best of new piston rings are soon made inefficient by this

carbon. Continued use of worn bearings may cause costly crankshaft damage.

So, modern, correct reconditioning calls for installation of new rings PLUS new bearings. Federal-Mogul Oil-Control Bearings are engineered to restore power, pep and economy and to protect other vital engine parts. (Service bearings are a critical war material. We are doing all we can to maintain the supply.)

**FEDERAL-MOGUL SERVICE • DETROIT 1, MICHIGAN**  
DIVISION OF FEDERAL-MOGUL CORPORATION

Replace With Genuine

# **FEDERAL-MOGUL**

**Oil-Control Bearings**



**For the Final Push... BUY WAR BONDS NOW!**

CLEAN AS A WHISTLE

EXHAUST GAS

THANKS TO EXCLUSIVE PRATT  
Self-Cleaning SCOOP ACTION



ONLY Pratt Mufflers offer exclusive, "clean-as-a-whistle" Scoop Action, *plus* Spiral Construction.

CAN'T-CLOG SCOOP ACTION means *less* power-robbing back pressure and *more* efficient engine performance.

SPIRAL SHELL CONSTRUCTION results in greater strength, longer life, more eye and buy appeal and peak consumer satisfaction.

These are only two of the many features which make the Pratt Line of Mufflers *Different, Better and Faster Selling*.

PRATT INDUSTRIES INC., FRANKFORT, N.Y.  
In Canada: PRATT CHUCK COMPANY, Ltd., Toronto, Ont.

Pratt Replacement Mufflers are sold only through jobbers.

Join the Profit Parade with Pratt Spiral Mufflers  
and watch your Muffler Sales Pyramid.

**PRATT Spiral MUFFLERS**  
DIFFERENT . . . BETTER . . . FASTER SELLING



Spiral Mufflers are approved by  
Underwriters' Laboratories, Inc.

# This year... Get More Business throughout the Anti-Freeze Season with



- ✓ Nationally known—highly regarded
- ✓ Road tested and guaranteed
- ✓ Made by a dependable manufacturer
- ✓ Backed with a real merchandising plan and materials that help you sell

## Get more income per customer from Complete Cooling System Service



Don't be content with the profit from pouring in anti-freeze . . . urge your customers to prepare their cars properly for winter before the anti-freeze goes in. You make extra sales—plus service fees—bigger profits.

## NOR'WAY\* Radiator Protection

\*Reg. U. S. Pat. Off.

## FREE! New Service Manual...



Just published—a book containing cooling system data and service helps for all passenger cars, trucks, and tractors. Send for a copy today.



WINDOW BANNER  
11 in. x 18 in.—  
ready to put up in  
your station or  
garage window.



CALCULATOR  
Tells quickly, just  
how much anti-  
freeze is needed.



ADVERTISING  
Appears regularly  
in all these widely  
read magazines.

Specialties Division  
**COMMERCIAL SOLVENTS**  
Corporation

17 East 42nd Street, New York 17, N. Y.

# The LEADER must LEAD

Raybestos Leads in Fan Belt Development

## RAYBESTOS FIRSTS

PRE-STRETCHED BELTS (1930) led to  
PRE-STRETCHED CABLED CORD  
STRENGTH MEMBERS (1934).

CORDS LOCATED ON NEUTRAL  
AXIS and INCORPORATION of  
EXTENSION and COMPRESSION  
ZONES—1931-2.

IMPROVED COVER FABRIC  
—1938. Belts covered with  
tightly woven fabric to eliminate high "knuckles" and  
increase wear factor.

FIRST MANUFACTURER TO  
SUPPLY MULTIPLE-COVER  
FAN BELTS—1939.

THE RAYBESTOS DIVISION  
of Raybestos-Manhattan, Inc.  
BRIDGEPORT, CONN.



Belts, Hose, Brake Linings, Clutch Facings For War and Essential Civilian Equipment

# HERE'S PROOF IN BLACK AND WHITE...



**YOU NEED  
AN OIL FILTER**

You don't have to hunt for Oil Filter sales prospects when you use the AC Oil Test Pads. Just wipe the dipstick on the Pad, instead of on a rag, and there is the evidence, in black and white, for your customers to see.

A black smear means dirty oil — and dirty oil means clogged ring slots — sticky valves — wasted power — wasted oil and fuel — rapid engine wear.

The remedy is clean oil — and an AC Oil Filter or Replacement Element to keep the oil clean. AC Oil Test Pads will increase your filter sales, by showing customers the condition of their oil. Get a supply of these handy Pads, and be sure to keep a stock of AC Oil Filters and Elements on hand. The Pads are *free* — and they sell Oil Filters.

—SEND FOR AC SHOP MANUALS—

Field Service Department, AC Spark-Plug Division, General Motors Corporation

910 Mott Foundation Building, Flint 3, Michigan

Gentlemen: Please send at once, no charge, the AC Shop Manuals checked:

- |  |  |
|--|--|
| <input type="checkbox"/> How to Service Spark Plugs                    | <input type="checkbox"/> How to Service Fuel Pumps   |
| <input type="checkbox"/> How to Service Spark Plug Cleaner             | <input type="checkbox"/> How to Service Air Cleaners |
| <input type="checkbox"/> HOW TO SERVICE OIL FILTERS                    | <input type="checkbox"/> How to Service Speedometers |
| <input type="checkbox"/> How to Service Ammeters and other Instruments | MA-8   |

NAME \_\_\_\_\_  
FIRM \_\_\_\_\_  
STREET ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_

STATE \_\_\_\_\_

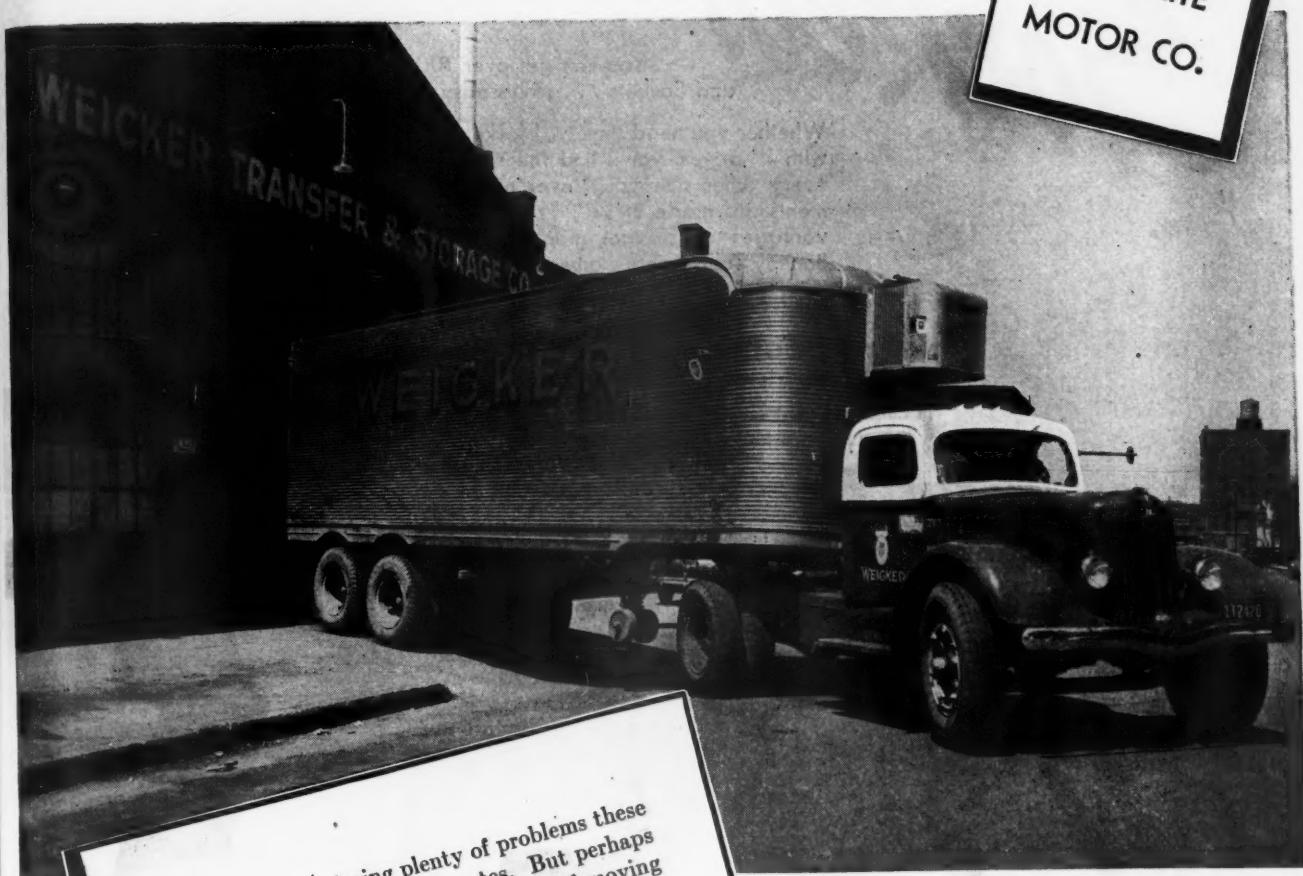
**AC**  
**OIL**  
**FILTERS**



SPEED FINAL VICTORY - BUY WAR BONDS

MOTOR AGE

# WATCH THE BEARINGS ON FLEETS



Fleet owners are facing plenty of problems these days: tires, help, overloads, rates. But perhaps the most serious is the durability of vital moving parts—of bearings that often make the difference between profit and loss, on-time delivery and delay. So many **SKF** Bearings are going to war, for instance, that few are available for replacement. Inside the repair shops, therefore, mechanics carefully check the condition of bearings . . . install them correctly, keep them clean, lubricate them properly. They know a bearing on the shaft is worth two on order any time.

5811

**SKF**  
INDUSTRIES, INC., PHILA. 34, PA.

**SKF**  
BALL AND ROLLER BEARINGS



# Bonney Sockets

for every job!

You can get over 1000 combinations with Bonney Drives and Sockets . . . so it's easy to handle any job that comes along.

Whether you need tiny  $\frac{3}{16}$ " sockets with  $\frac{1}{4}$ " drives, or husky  $3\frac{1}{8}$ " sockets with 1" drives, you'll find them in the complete Bonney line. And there's every other size you'll ever need because Bonney Sockets and Attachments are made in  $\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ ",  $\frac{3}{4}$ " and 1" drives. All with same advantages of design, machining and heat-treatment that have made Bonney Tools famous among top-flight mechanics everywhere.

Ask your nearest Bonney Jobber or Distributor for complete information.

## BONNEY FORGE & TOOL WORKS

716 N. MEADOW STREET, ALLENTOWN, PA.

In Canada: Gray-Bonney Tool Company, Ltd.  
St. Clarens & Royce Aves., Toronto





WHAT I WANT IS  
GASOIL HOSE THAT  
WILL NOT ROT,  
CLOG, LEAK OR  
BREAK

...in other words  
**RESISTOFLEX**  
with the compar tube

Totally unaffected by gasoline, diesel  
fuel, lubricating oils and vibration...  
withstands more flexing and torsion  
than hose of any other material.



ORIGINAL FACTORY EQUIPMENT ON MILITARY AND CIVILIAN VEHICLES, VESSELS AND AIRCRAFT.

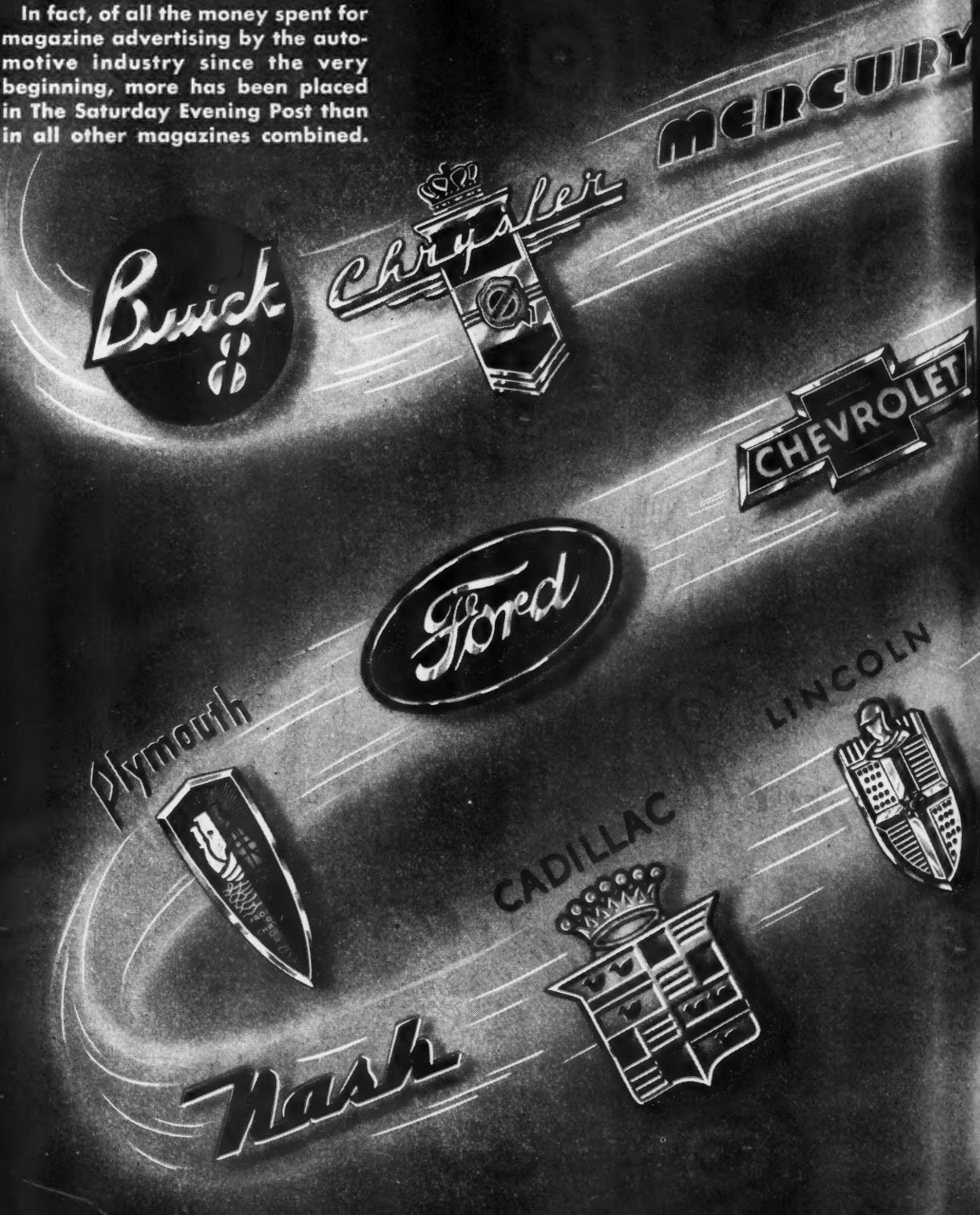
Trade Mark Reg. in U. S. & Can. Pat. Off.

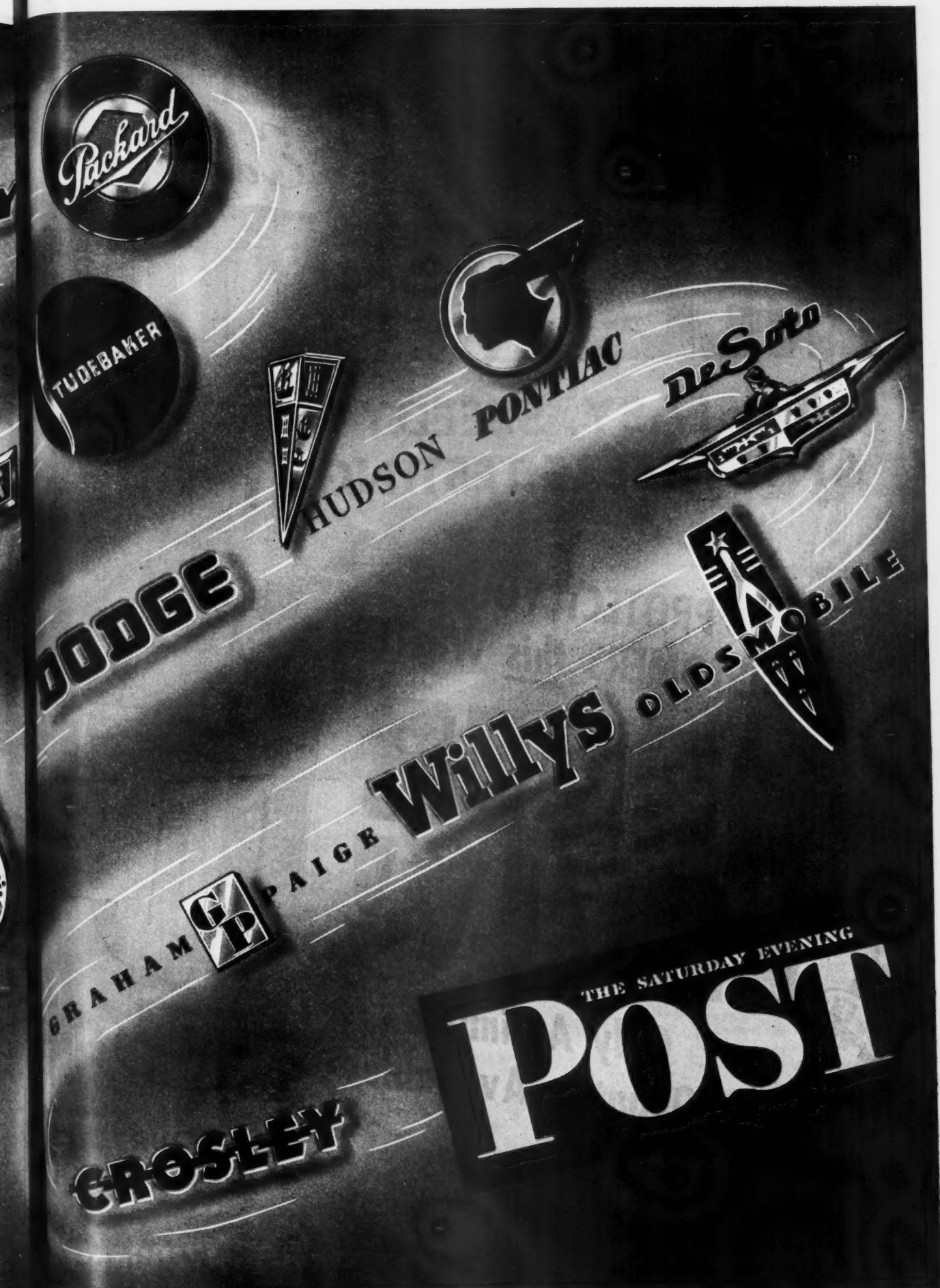


RESISTOFLEX CORPORATION, BELLEVILLE 9, N. J.

**TODAY'S OUTSTANDING NAMES** in the passenger car industry have spent more of their advertising dollars in *The Saturday Evening Post* than in any other magazine.

In fact, of all the money spent for magazine advertising by the automotive industry since the very beginning, more has been placed in *The Saturday Evening Post* than in all other magazines combined.





No. 33A  
SELF-CALCULATING

By *Edelmann*

# FREEZ-D-TECTOR

For EASY, SPEEDY  
ANTI-FREEZE TESTING

PROTECT YOUR  
CUSTOMERS this WINTER

# ORDER EARLY!

Only A Limited  
Quantity Available



BUY  
MORE  
WAR  
BONDS



SEE YOUR  
JOBBER

E. EDELMANN & CO., Chicago 47, Illinois



Hold on a second! Don't get the air blue with *idle curses*—find out what's to blame for errors. Your employees? Probably not... they don't like errors any more than you do. Well then—how come errors in the first place?

Most likely, your error trouble is caused by the fact that too many people have to write and re-write the same information—and every time a form must be recopied, there's a chance for mistakes. Or, perhaps, errors are due to poor copy reproduction—fuzzed carbon copies that are unreadable, defeat legibility. If so, then here is your solution—Uarco forms. Forms with

carbons that assure clean detailed copies—forms that allow one person to type or write enough copies at one time for all departments.

Today see what Uarco has to show you. For Uarco has made a science of creating better forms... forms scientifically designed for individual businesses, that pay off in savings of time and money as well as lessening the possibility of errors.

Spend a half hour with the Uarco representative. You will be amazed at the substantial cut in errors the *right form* will bring you. Call him today—or write.

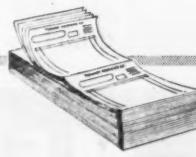
UNITED AUTOGRAPHIC REGISTER COMPANY  
Chicago, Cleveland, Oakland • Offices in All Principal Cities



AUTOGRAPHIC REGISTERS



SINGLE SET FORMS



HANDWRITTEN FORMS  
CONTINUOUS-STRIP FORMS FOR  
TYPEWRITTEN • BUSINESS MACHINE RECORDS



**UARCO**

**BETTER BUSINESS FORMS**



For instance, this is the Uarco Speed-O-Form... one of many time-saving forms. In five seconds, any standard typewriter can become a continuous forms biller. Eliminates carbon stuffing, paper alignment and other such time-taking routine jobs. Two to six copies are made at once, and forms in back of the machine continuously feed the typewriter as typist types. Write for full information.

# Here it is!...

THE FINEST, MOST  
MODERN OILER IN  
THE *Automotive* FIELD



## HANSEN AUTOMOTIVE AIRLINE *Equipment*

One of the most "usable" pieces of automotive equipment around service stations and garages is the popular Hansen No. 82 Jet Oiler. Manually operated, it projects a solid jet of light or penetrating oil when plunger is depressed. The unique handle permits this oiler to be aimed in all directions without cramping hand or wrist.

Container has a capacity of one quart, is

heavily plated and buffed to a mirror finish. It will take rough usage as all pump parts are enclosed in the handle casting, completely protected from breakage and dirt. Automatic nozzle cleaner eliminates all clogging of nozzle.

This is just one of the popular Hansen automotive airline items, send in for free automotive catalog showing complete line.

## HANSEN MFG. COMPANY

1786 EAST 27th STREET

CLEVELAND 14, OHIO

# It's a General Motors Product!

*The Brake Lining  
that Eliminates Call-Backs  
for Readjustments!*

Gives Positive Pedal Pressure...  
Right for All Drivers...Both Men and Women

USED AS ORIGINAL EQUIPMENT  
ON GENERAL MOTORS CARS

Genuine  
ORIGINAL EQUIPMENT  
BRAKE LINING



A United Motors Line available everywhere  
through United Motors Service Distributors

**INLITE**  
BRAKE LINING

INLAND MANUFACTURING DIVISION, GENERAL MOTORS CORPORATION, DAYTON, OHIO

**INLITE**  
NO GRAB · NO SLIP · NO SCORE  
NO CHATTER



## WHAT INLAND IS MAKING FOR VICTORY

Inland Products for Victory include Carbines, Tank Tracks, Gun Sights, Helmet Liners, Extinguisher Horns, Mortar Bomb Plastic Fuse Body, and Rubber, Synthetic Rubber and Metal Parts for Tanks, Aircraft, Submarine Chasers, Torpedo Boats, Artillery Lighters and Landing Craft.

**KEEP ON  
BUYING WAR BONDS**

More Miles per Gallon—  
with peak performance.

Every car and truck owner  
wants it and—needs it!

Carter Repair Packages and  
Motor Tune-Up will help  
deliver greater economy!



## *the* CARTER REPAIR PACKAGE

All the essential parts for a thorough job—

**CARBURETER**  
Registered in U. S. Patent Office  
PRODUCTS OF PRECISION



**CARTER CARBURETOR CORPORATION**

St. Louis 7, Missouri

Division of American Car and Foundry Company

*Time SAVED is Money MADE*

**Circo Chief**  
DEGREASER  
3 MINUTE PARTS CLEANING

When parts cleaning hours are whittled down to minutes, when the time wasted by a mechanic in cleaning parts is eliminated, when cleaning materials are salvaged, not thrown away—that's time saved and money made in parts cleaning. All of this adds up to the performance of the new, modern, remarkably fast "Circo Chief" twin tank degreaser—a "3 minute record" cleaner of dirty greasy parts, equalled by no other cleaning unit. It is by far the greatest advancement made in parts cleaning in twenty-five years. "Circo Chief" cleans parts five different ways, hot solvent vapor cleaning (automatic), drying (automatic), spraying (automatic), dipping and soaking. Method best suited for the job depends upon the condition of parts.

Anyone can operate the "Circo Chief"—it starts and stops automatically, heats automatically, and feeds itself solvent

automatically. All the operator does to vapor clean is feed it parts—the unit does all the cleaning. Solvent is non-flammable and all types of metal parts can be cleaned at the same time without any harmful effects.

This you can depend upon—the "Circo Chief" will clean and dry metal parts faster, more economically, more thoroughly with less effort, less of mechanic's time, at less cost than any other unit or method on the market. It will show bigger profit on each and every job. See it in action and you'll sell yourself—it's a revelation.



**CIRCO**  
PRODUCTS COMPANY  
2835 CHESTER AVE. • CLEVELAND 14, OHIO

5 CLEANING METHODS IN ONE UNIT

*Just Out!* THE NEW  
OILDEX CATALOG

WRITE FOR YOUR COPY TODAY!



OILDEX

for MOTOR ECONOMY and PROTECTION  
On Cars, Trucks, Busses, Road Machinery,  
Farm Tractors, Tanks, and Motor Boats

A PRODUCT OF MOTOR ECONOMY PRODUCTS, INC.

SUBSIDIARY OF WATSON ELEVATOR COMPANY, INC.  
407 WEST 36th STREET, NEW YORK 18, N. Y.

for Safety's Sake...and better brakes - use

# WAGNER LOCKHEED

## Hydraulic Brake Repair Kits



H45-20

## Available for replacement service on all hydraulic brakes on cars, trucks and buses

Specify genuine Wagner Lockheed products and you are assured merchandise of the highest quality produced for original equipment or replacement needs.

Wagner Lockheed master cylinder and wheel cylinder repair kits are available in metal-end factory-sealed packages easily identified by the well-known red, white, and blue design. These kits include all essential parts for a specific job, and the sealed

containers eliminate all chances of parts being damaged or missing when kits reach purchasers.

For details, consult nearest Wagner jobber, or write us. Ask for Catalog HU-122.

**Wagner Electric Corporation**  
ESTABLISHED 1891

6498 Plymouth Ave., St. Louis 14, Mo., U. S. A.  
In Canada: Wagner Brake Company Limited, 43 Edward St., Toronto



WAGNER AIR BRAKES, WAGNER LOGHEED HYDRAULIC BRAKE PARTS  
and FLUID, CoMax BRAKE LINING, WAGNER AIR BRAKES, NoRel, and the TACHOGRAPH.



## Good Lubrication Service Depends on Good Oils and Lubes

You may have the best-looking place in town—the best-trained lubricators . . . the best quality lubrication equipment . . . but your lubrication service depends on the oils and lubes you use. That's what your customers pay for! When you sell Wolf's Head Motor Oil you are selling the finest quality motor oil your customers can buy. When you use Wolf's Head Lubes you are

using the finest quality lubes obtainable. Nobody can outsell you on *quality* when you sell Wolf's Head Products.

Wolf's Head Oil is the oil preferred by leading aircraft engine manufacturers who specify Wolf's Head for critical engine test runs. Bus and truck fleet operators choose Wolf's Head because they *know* that it makes engines last longer. Car

drivers the country over—who know the value of *good* oil—insist on Wolf's Head. Service Stations and lubrication departments find that Wolf's Head—"the finest of the fine"—Pennsylvania Oil and Lubes help get new customers and keep old customers satisfied.

**WOLF'S HEAD OIL REFINING CO., INC.**  
OIL CITY, PA., or  
NEW YORK 10, N. Y.

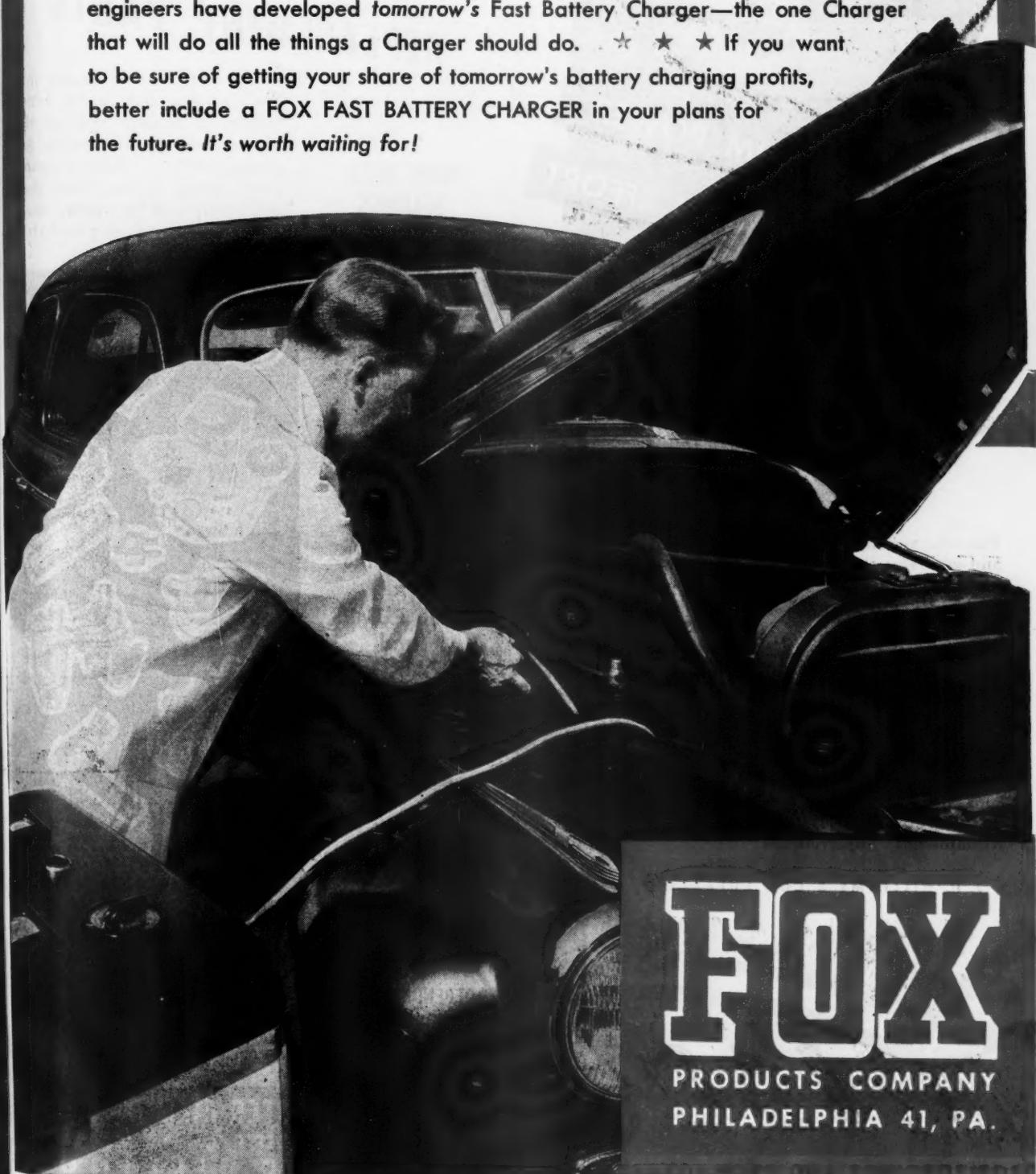
# WOLF'S HEAD

MOTOR OIL AND LUBES

100% PENNSYLVANIA  P.G.C.O.A. Permit No. 6

## Better Plan on a **FOX FAST BATTERY CHARGER!**

There'll be more profit for you in battery charging the FOX way! Combining eye-appeal with electrical and mechanical perfection, FOX designers and engineers have developed tomorrow's Fast Battery Charger—the one Charger that will do all the things a Charger should do. ★ ★ ★ If you want to be sure of getting your share of tomorrow's battery charging profits, better include a FOX FAST BATTERY CHARGER in your plans for the future. It's worth waiting for!



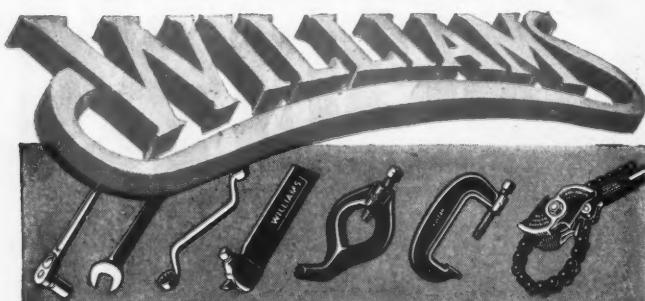
**FOX**  
PRODUCTS COMPANY  
PHILADELPHIA 41, PA.



The true test of a wrench is: first, that it fits easily and securely; then, that the required pressure can be applied with the least possible effort. It is this combination that enables the user of Williams 12-Point Box "Superrenches" to accomplish his job in the shortest possible time without damage to nut, bolt or knuckles.

Williams 12-Point Box "Superrenches" grip hex nuts firmly on all six sides. They are alloy steel, light and comfortable as well as long lasting and dependable. Available in all sizes with long or short handles in both 15° single offset and double offset patterns. Sold both singly and in sets. Every mechanic should make sure that his tool kit includes the necessary Williams Box "Superrenches".

J. H. WILLIAMS & CO., BUFFALO 7, N. Y.



DROP-FORGINGS AND DROP-FORGED TOOLS



FRONT WHEEL  
BEARINGS

★  
CLUTCH RELEASE  
BEARINGS

★  
WATER PUMPS  
(EXCHANGE)

★  
WATER PUMP KITS

★  
TIE ROD ENDS

★  
PISTON PINS

★  
FUEL PUMPS  
and  
REPAIR KITS

★  
HYDRAULIC  
BRAKE PARTS  
AND KITS

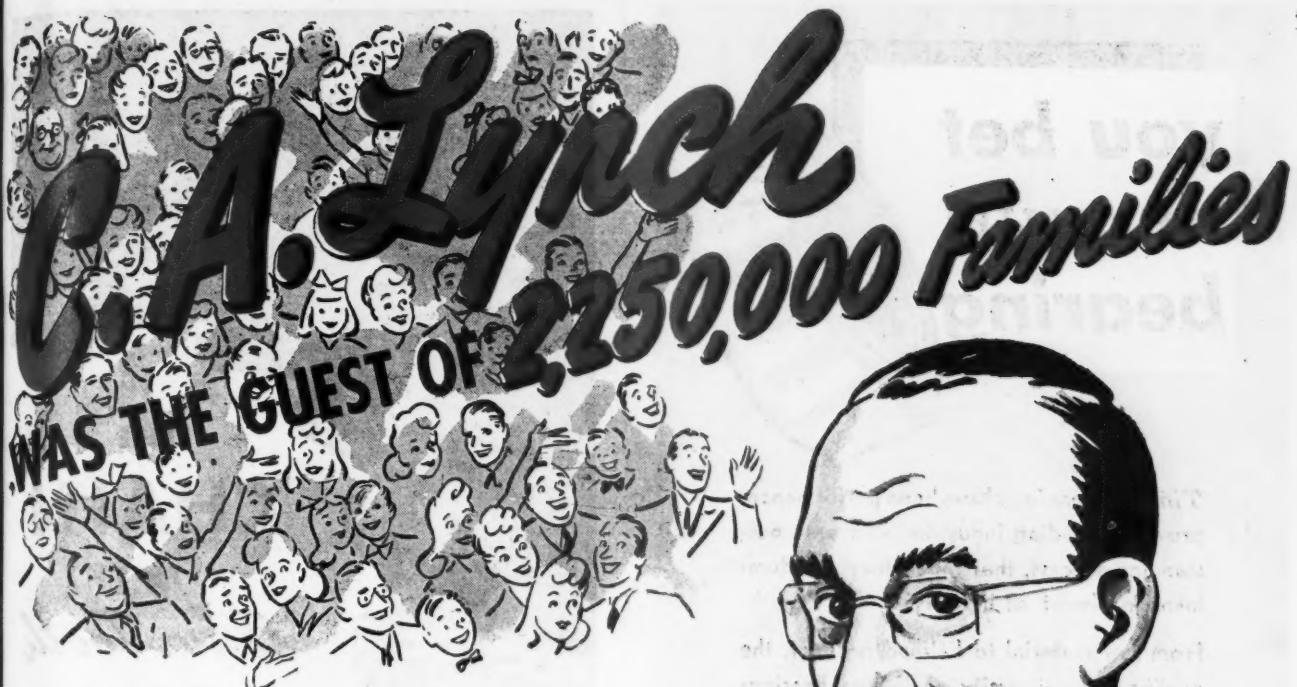
Many Other Parts  
for Cars and  
Trucks.



A  
DEPENDABLE  
MANUFACTURING  
SOURCE OF  
SUPPLY

CHEFFORD MASTER MFG. CO., INC.  
(DEPT B.)  
FAIRFIELD, ILLINOIS

JOBBERS: Your orders will receive immediate attention. Write Dept B for catalogs and prevailing price schedules.



...who heard, through the Johns-Manville radio broadcast the story of how co-operation between distributors and repair men keeps America's motor vehicles on the go.



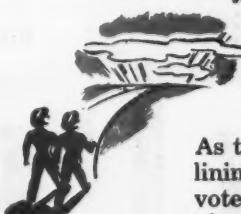
The vital work of distributors and repair men in keeping America's motor transport system functioning smoothly—known formerly only to the industry—is now being publicized nationally through J-M network newscasts.



In one of these regular broadcasts, Johns-Manville recently told the story of C. A. Lynch, President of the Joseph Woodwell Co., Pittsburgh, Pa. Millions of people heard why distributors like Mr. Lynch are the backbone of America's automotive maintenance industry.



J-M knows full well—and wants the public to know, too—how important their work is now . . . and will be after the war. So long as cars will need maintenance, America will need parts distributors.



As the oldest maker of asbestos brake linings, Johns-Manville is proud to devote its nationwide radio time to emphasizing the great importance of distributors to the efficient servicing of America's autos, buses and trucks.

# you bet IT'S A BETTER bearing



Timken Bearings have been performance-proven in leading industries with such outstanding success, that today they are dominant in almost all industry!

From raw material to finished product, the quality and uniformity of Timken Bearings is precisely controlled by experts. We melt our own steel, roll our billets and bars, pierce and draw the tubing from which Timken Bearings are made. No other bearing manufacturer in America can make that claim.

No other bearing manufacturer provides the comprehensive service that for years has marked The Timken Roller Bearing Company as the recognized leader. Timken Bearings are manufactured in a wide range of sizes for automotive and industrial applications of every description.

The Timken Roller Bearing Company pioneered and perfected the tapered roller bearing and there is more than 47 years of engineering development and research behind the bearing that carries the trademark "TIMKEN". You get the very best there is in bearings — enduring service and lasting satisfaction if the trade-mark "TIMKEN" is on every bearing you use.

THE TIMKEN ROLLER BEARING COMPANY, CANTON 6, OHIO

**TIMKEN**  
TRADE-MARK REG. U. S. PAT. OFF.  
TAPERED ROLLER BEARINGS



Campbell Lug-Reinforced Tire Chains are radically different! The exclusive\* saw-toothed lugs cut right into snow and ice for the grip that assures safe starts and stops without dangerous, rubber-chewing slip and skid. Tough, hard-wearing steel, and one-piece construction, mean increased chain mileage.

International Chain and Mfg.  
Company, York, Pennsylvania.



**CAMPBELL**  
Lug-Reinforced  
TIRE CHAINS

*The CAMPBELL Line*

THE CHAIN WITH THE SAW-TOOTH GRIP

\*U.S. PAT. NO. 2,093,547

\*CANADIAN PAT. NO. 223,568

**TO MAKE ENGINES LAST, KEEP 'EM COOL**

# Grey-Rock

**FAN BELTS and HOSE**

**FOR TRUCKS, BUSES, CARS, TRACTORS**

## Grey-Rock

### ✓ FAN BELTS

Test the tension with your thumb. Best traction comes from a belt that is neither too slack nor too taut. Then rapidly accelerate motor to check for slippage.

Always replace belt if broken, cracked, or peeling, or if belt bottoms in pulley. Do not remove fan blades unless absolutely necessary.

Lubricate water pump and generator. Wipe off excess grease from belt and pulleys. Be sure pulleys are in alignment.

### ✓ RADIATOR HOSE

Clogged hoses cause overheating. Flabby cover usually indicates collapsed hose. To make sure, remove all hoses and replace if tube has collapsed or rotted.

Always use correct Grey-Rock correct hose or Flex-Hose where indicated. Never attempt to bend straight hose.

Clean radiator and motor block connections before installing hose. Use correct length. Avoid kinks or sags. Make connections tight by using proper clamps.

**SEE YOUR GREY-ROCK JOBBER  
FOR ALL COOLING-SYSTEM PARTS**

UNITED STATES ASBESTOS DIVISION  
of Raybestos-Manhattan, Inc.  
MANHEIM, PA.



# SHOCK links



**CHAMP-ITEMS, SHOCK ABSORBER LINKS**  
for Ford and Mercury cars. Steel stamped Links.  
Precision made. High quality.

**No. 36/31**

**Shock Link 3"**

**List 75c each**

**No. 37/31**

**Shock Link 4"**

**List 75c each**

ORDER FROM YOUR JOBBER



**CHAMP-ITEMS, Inc.**

6191 MAPLE AVE.  
ST. LOUIS, MO.

*Announcing*

## **REXALOY OVERLAY ELECTRODES**

*for either AC or DC machines*

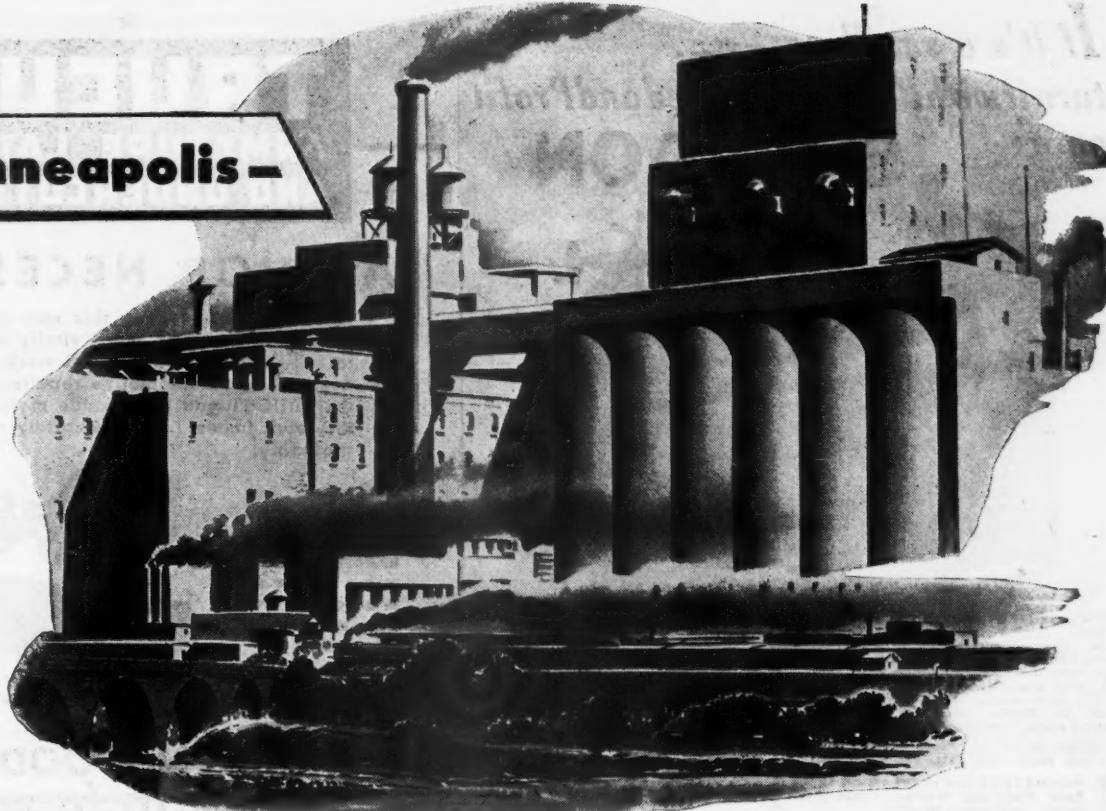
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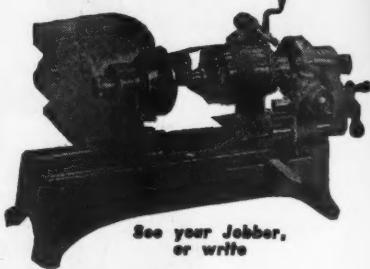
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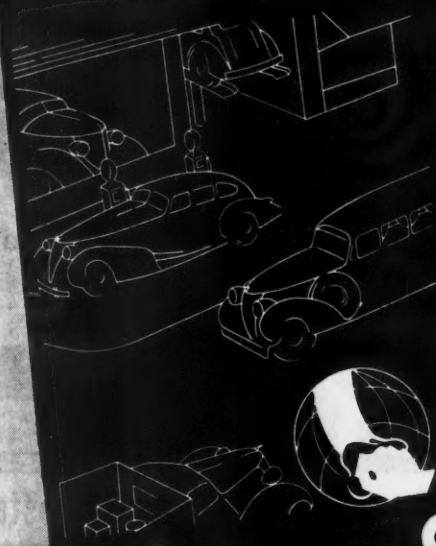
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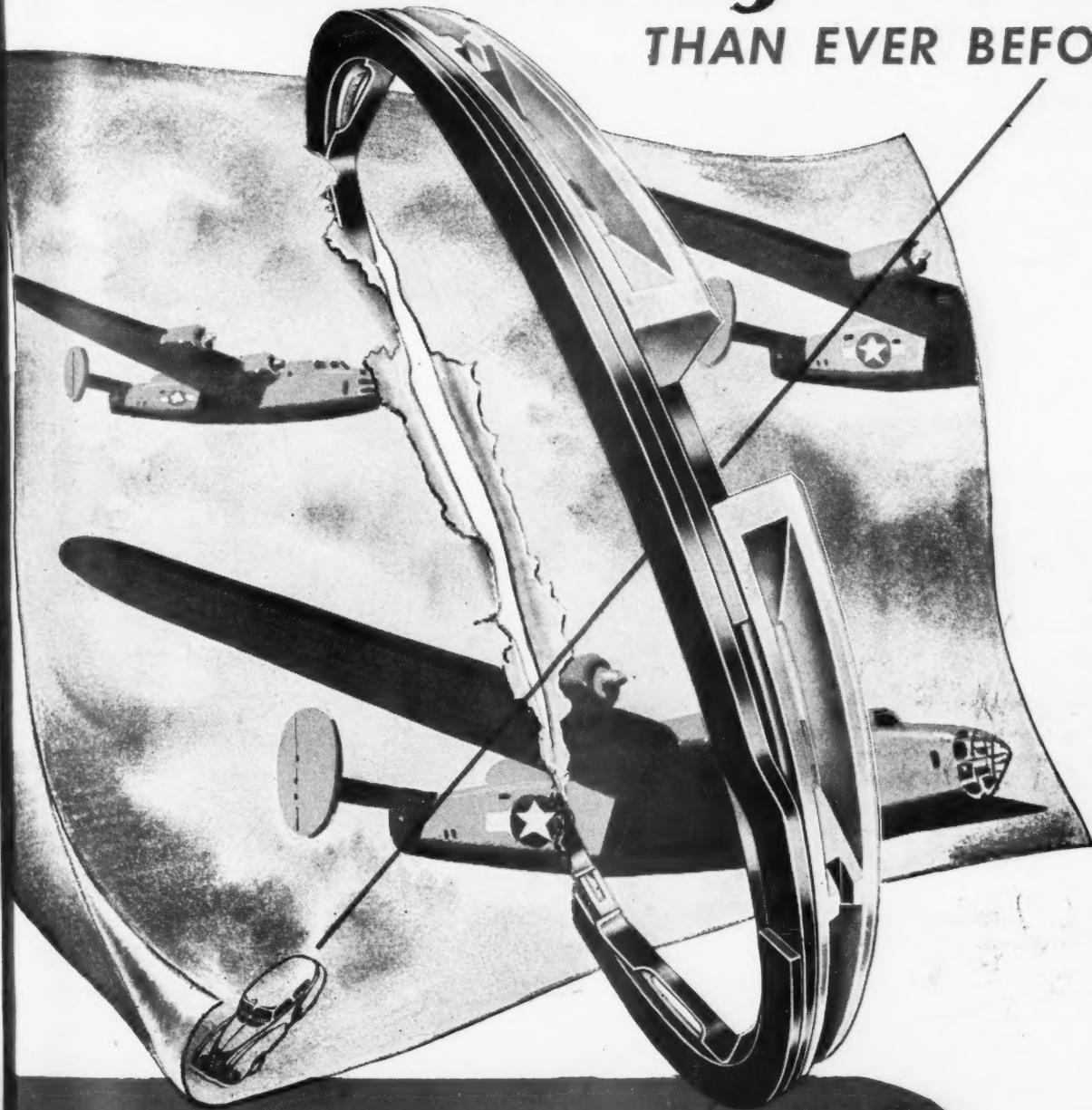
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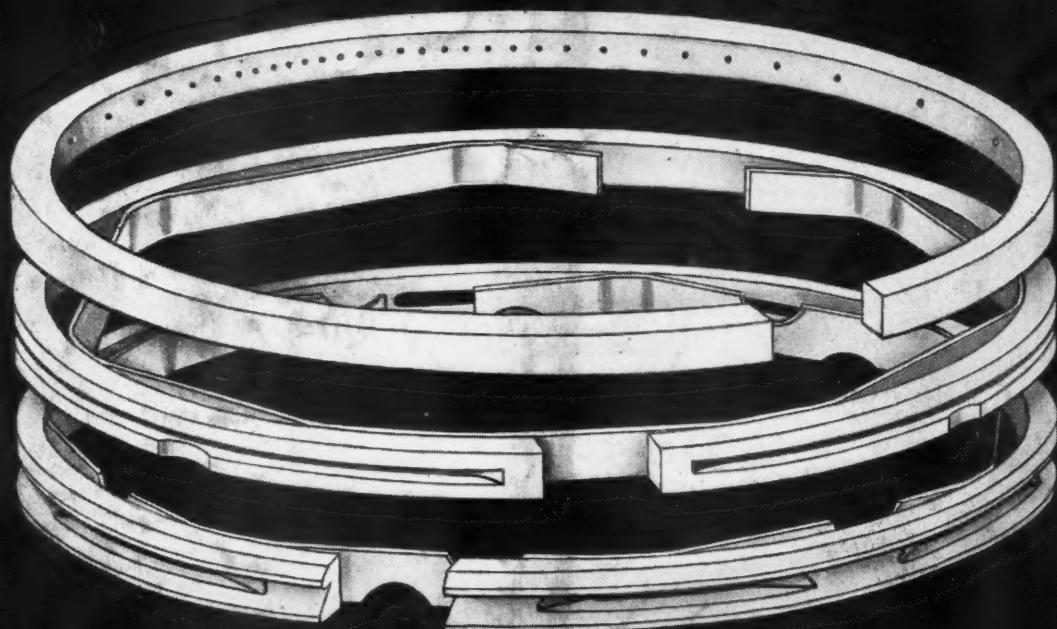
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